

# Index of Papers Published in 1974 Journals

## Author Index

### A

- Abel, W. and Wilson, N. D.: *Sea-Floor Scour Protection for a Semisubmersible Drilling Rig on the Nova Scotian Shelf*, (Tech. Paper) JPT Apr., 381
- Abib, O. et al.: *Application of Inverse Simulation to a Complex Multireservoir System*, JPT July, 801
- Afojeu, B. I.: *Conversion of Steam Injection to Waterflood, East Coalinga, Field*, (Tech. Paper) JPT Nov., 1227
- Aguilera, R.: *Analysis of Naturally Fractured Reservoirs From Sonic and Resistivity Logs*, (Tech. Paper) JPT Nov., 1233
- Akbar, A. M. et al.: *Numerical Simulation of Individual Wells in a Field Simulation Model*, (Tech. Paper) SPEJ Aug., 315
- Allen, D. R. et al.: *Compressibility of Unconsolidated, Arkosic Oil Sands*, (Tech. Paper) SPEJ Apr., 132
- Anderson, M. L. and Vogt, T. C.: *Optimizing the Profitability of Matrix Acidizing Treatments*, (Tech. Paper) JPT Sept., 1055
- Arnold, M. D. et al.: *Numerical Simulation of Individual Wells in a Field Simulation Model*, (Tech. Paper) SPEJ Aug., 315
- Arps, J. J. and Arps, J. L.: *Prudent Risk-Taking*, (Tech. Paper) JPT July, 711
- Arps, J. L.: *An Improved Semisubmersible Work Vessel for North Sea Operations*, (Forum) JPT Mar., 326
- Arps, J. L. and Arps, J. J.: *Prudent Risk-Taking*, (Tech. Paper) JPT July, 711
- Ashford, F. E.: *An Evaluation of Critical Multiphase Flow Performance Through Wellhead Chokes*, (Tech. Paper) JPT Aug., 843; discussion, 849
- Aziz, K. and Settari, A.: *A Computer Model for Two-Phase Coning Simulation*, (Tech. Paper) SPEJ June, 221
- Use of Irregular Grid in Cylindrical Coordinates*, SPEJ Aug., 396; discussion, 405

### B

- Baldry, J. A. S. and Palmer, A. C.: *Lateral Buckling of Axially Constrained Pipelines*, (Forum) JPT Nov., 1283
- Barkman, J. H. and Tuttle, R. N.: *New Nondamaging and Acid-Degradable Drilling and Completion Fluids*, (Tech. Paper) JPT Nov., 1221
- Bayless, J. H. and Penberthy, W. L., Jr.: *Silicate Foam Wellbore Insulation*, (Tech. Paper) JPT June, 583
- Bea, R. G.: *Selection of Environmental Criteria for Offshore Platform Design*, (Tech. Paper) JPT Nov., 1206
- Beck, R. W.: *Performance Tests of Drilling-Vessel Anchors*, JPT Mar., 337
- Blair, P. M. et al.: *Discussion on Use of Irregular Grid in Cylindrical Coordinates*, SPEJ Aug., 403
- Boberg, T. C. et al.: *Application of Inverse Simulation to a Multireservoir System*, JPT July, 801
- Bondor, P. L., Jr., and Claridge, E. L.: *A Graphical Method for Calculating Linear Displacements With Mass Transfer and Continuously Changing Mobilities*, SPEJ Dec., 609
- Bourgoyne, A. T., Jr., and Young, F. S., Jr.: *A Multiple Regression Approach to Optimal Drilling and Abnormal Pressure Detection*, SPEJ Aug., 371
- Braun, P. H. et al.: *Factorial Design Analysis of Wet-Combustion Drive*, (Tech. Paper) SPEJ Feb., 25
- Brigham, W. E.: *Mixing Equations in Short Laboratory Cores*, SPEJ Feb., 91
- Brill, J. P. and Lawson, J. D.: *A Statistical Evaluation of Methods Used To Predict Pressure Losses for Multiphase Flow in Vertical Oilwell Tubing*, JPT Aug., 903; discussion, 913
- Brill, J. P. et al.: *Evaluation of Three New Methods for Predicting Pressure Losses in Vertical Oilwell Tubing*, (Tech. Paper) JPT Aug., 829
- Parameters for Computing Pressure Gradients and the Equilibrium Saturation of Gas-Condensate Fluids Flowing in Sandstones*, (Tech. Paper) SPEJ June, 203

- Brooks, F. A.: *Evaluation of Preflushes for Sand Consolidation Plastics*, (Tech. Paper) JPT Oct., 1095
- Brooks, F. A. et al.: *Externally Catalyzed Epoxy for Sand Control*, (Tech. Paper) JPT June, 589
- Brusset, M. J. et al.: *The Economics of Developing Canadian Arctic Gas*, (Tech. Paper) JPT Nov., 1199
- Burcik, E. J. and Thakur, G. C.: *Some Reactions of Microgel in Polyacrylamide Solutions*, (Forum) JPT May, 545; discussion, 547
- Burke, B. G.: *An Analysis of Marine Risers for Deep Water*, JPT Apr., 455
- Buxton, T. S. and Pollock, C. B.: *The Sloss COFCAW Project — Further Evaluation of Performance During and After Air Injection*, JPT Dec., 1439

### C

- Cain, P. J. et al.: *The Behavior of Salem Limestone in Cyclic Loading*, (Tech. Paper) SPEJ Feb., 19
- Capen, E. C. and Clapp, R. V.: *The Ratio: A Possible Clash Between Instinct and Science*, (Tech. Paper) JPT May, 483
- Carney, L. L.: *Cement Spacer Fluid*, (Forum) JPT Aug., 856
- Carter, K. M. and Mazzocchi, E. F.: *Pilot Application of a Blocking Agent — Weyburn Unit, Saskatchewan*, (Tech. Paper) JPT Sept., 973
- Carter, R. D. et al.: *Performance Matching With Constraints*, SPEJ Apr., 187
- Chamberlain, P. G. and Krech, W. W.: *New Techniques for Measuring Rock Fracture Energy*, (Tech. Paper) SPEJ June, 237
- Chappelear, J. E. and Rogers, W. L.: *Some Practical Considerations in the Construction of a Semi-Implicit Simulator*, (Tech. Paper) SPEJ June, 216
- Chaumet, P. and Sonier, F.: *A Fully Implicit Three-Dimensional Model in Curvilinear Coordinates*, SPEJ Aug., 361
- Cheatham, J. B., Jr., and Kojic, M.: *Analysis of the Influence of Fluid Flow on the Plasticity of Porous Rock Under an Axially Symmetric Punch*, SPEJ June, 271
- Theory of Plasticity of Porous Media With Fluid Flow*, SPEJ June, 263
- Chen, W. H. et al.: *A New Algorithm for Automatic History Matching*, SPEJ Dec., 593
- Cheng, A. P. and Keleher, J. F.: *First Jack-Up Production Platform in the North Sea*, (Forum) JPT Mar., 323
- Chesnut, D. A. and Goldberg, B.: *A Model for Events Occurring at Random Points in Time and an Example Application to Casing Failures in Cedar Creek Anticline Wells*, (Tech. Paper) SPEJ Oct., 482
- Chierici, G. L. et al.: *Discussion on a Statistical Evaluation of Methods Used To Predict Pressure Losses for Multiphase Flow in Vertical Oilwell Tubing*, JPT Aug., 913
- Two-Phase Vertical Flow in Oil Wells — Prediction of Pressure Drop*, JPT Aug., 927; discussion, 937
- Chilingar, G. V. et al.: *Compressibility of Unconsolidated, Arkosic Oil Sands*, (Tech. Paper) SPEJ Apr., 132
- Christman, S. A. and Masonheimer, R. A.: *Drillstem-Test Assemblies for Floating Vessels*, (Tech. Paper) JPT Aug., 851
- Chu, C. et al.: *Three-Dimensional Simulation of Steamflooding*, SPEJ Dec., 573
- Chu, S. L. et al.: *Thermal Behavior of Unconsolidated Oil Sands*, (Tech. Paper) SPEJ Oct., 513
- Ciucci, G. M. et al.: *Discussion on a Statistical Evaluation of Methods Used To Predict Pressure Losses for Multiphase Flow in Vertical Oilwell Tubing*, JPT Aug., 913
- Two-Phase Vertical Flow in Oil Wells — Prediction of Pressure Drop*, JPT Aug., 927; discussion, 937
- Clapp, R. V. and Capen, E. C.: *The Ratio: A Possible Clash Between Instinct and Science*, (Tech. Paper) JPT May, 483
- Claridge, E. L. and Bondor, P. L., Jr.: *A Graphical Method for Calculating Linear Displacements With Mass*

- Transfer and Continuously Changing Mobilities*, SPEJ Dec., 609
- Clark, R. K. and Fontenot, J. E.: *An Improved Method for Calculating Swab and Surge Pressures and Circulating Pressures in a Drilling Well*, (Tech. Paper) SPEJ Oct., 451
- Cleland, N. A. et al.: *The Economics of Developing Canadian Arctic Gas*, (Tech. Paper) JPT Nov., 1199
- Coats, K. H. and Price, H. S.: *Direct Methods in Reservoir Simulation*, SPEJ June, 295
- Coats, K. H. et al.: *Three-Dimensional Simulation of Steam-flooding*, SPEJ Dec., 573
- Cobb, W. M. et al.: *Factorial Design Analysis of Wet-Combustion Drive*, (Tech. Paper) SPEJ Feb., 25
- Well-Test Analysis for Wells Producing From Two Commingled Zones of Unequal Thickness*, JPT Sept., 1035
- Cook, G. W. and Emmanuel, A. E.: *Pseudo-Relative Permeability for Well Modeling*, (Forum) SPEJ Feb., 7
- Cook, R. E. et al.: *A Beta-Type Reservoir Simulator for Approximating Compositional Effects During Gas Injection*, (Tech. Paper) SPEJ Oct., 471
- Cooke, C. E., Jr., et al.: *Oil Recovery by Alkaline Waterflooding*, (Tech. Paper) JPT Dec., 1365
- Coon, M. C.: *Mechanical Behavior of Compacted Arctic Ice Floes*, JPT Apr., 466
- Copeland, C. T. and McAuley, J. D.: *Controlling Sand With an Epoxy-Coated, High-Solids-Content Gravel Slurry*, (Tech. Paper) JPT Nov., 1215
- Craig, F. F., Jr., and Parrish, D. R.: *A Multirill Evaluation of the COFCAW Process*, (Tech. Paper) JPT June, 659
- Craig, F. F., Jr., et al.: *A Tertiary COFCAW Pilot Test in the Sloss Field, Nebraska*, JPT June, 667
- Culham, W. E.: *Pressure Buildup Equations for Spherical Flow Regime Problems*, (Tech. Paper) SPEJ Dec., 545
- Culver, R. B. et al.: *Carbon/Oxygen (C/O) Logging Instrumentation*, (Tech. Paper) SPEJ Oct., 463

## D

- Dabbous, M. K. and Fulton, P. F.: *Low-Temperature-Oxidation Reaction Kinetics and Effects on the In-Situ Combustion Process*, (Tech. Paper) SPEJ June, 253
- Dabbous, M. K. et al.: *Air-Water Relative Permeability Studies of Pittsburgh and Pocahontas Coals*, SPEJ Dec., 556
- The Permeability of Coal to Gas and Water*, SPEJ Dec., 563
- Dauben, D. L. et al.: *Micellar Flooding — Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 633; discussion, 643
- DeMoss, E. E. et al.: *New Gas-Lift Concept — Continuous-Flow Production Rates From Deep, Low-Pressure Wells*, (Tech. Paper) JPT Jan., 13
- Dempsey, J. R. et al.: *Use of Injection-Falloff Tests To Evaluate Storage Reservoirs*, (Tech. Paper) JPT May, 494
- Downs, S. L. and Gohel, M. K.: *Injection Profile Corrections — A Review of Workover Techniques, Willard Unit*, (Tech. Paper) JPT May, 557
- Dumore, J. M. and Schols, R. S.: *Drainage Capillary-Pressure Functions and the Influence of Connate Water*, (Tech. Paper) SPEJ Oct., 437
- Dupont, T. and Rachford, H. H., Jr.: *A Fast, Highly Accurate Means of Modeling Transient Flow in Gas Pipeline Systems by Variational Methods*, SPEJ Apr., 165; discussion, 175
- Some Applications of Transient Flow Simulation To Promote Understanding the Performance of Gas Pipeline Systems*, SPEJ Apr., 179; discussion, 185

## E

- Earlougher, R. C., Jr., and Kersch, K. M.: *Analysis of Short-Time Transient Test Data by Type-Curve Matching*, JPT July, 793
- Earlougher, R. C., Jr., et al.: *Some Characteristics of Pressure Buildup Behavior in Bounded Multiple-Layered Reservoirs Without Crossflow*, JPT Oct., 1178
- Edgington, A. N. et al.: *The Economics of Developing Canadian Arctic Gas*, (Tech. Paper) JPT Nov., 1199

- Ehrlich, R. et al.: *Alkaline Waterflooding for Wettability Alteration — Evaluating a Potential Field Application*, (Tech. Paper) JPT Dec., 1335
- Eilerts, C. K. et al.: *Parameters for Computing Pressure Gradients and the Equilibrium Saturation of Gas-Condensate Fluids Flowing in Sandstones*, (Tech. Paper) SPEJ June, 203
- Ellis, R. C. et al.: *New Gas-Lift Concept — Continuous-Flow Production Rates From Deep, Low-Pressure Wells*, (Tech. Paper) JPT Jan., 13
- Emmanuel, A. E. and Cook, G. W.: *Pseudo-Relative Permeability for Well Modeling*, (Forum) SPEJ Feb., 7

## F

- Farouq Ali, S. M. and Toronyi, R. M.: *Determining Interblock Transmissibility in Reservoir Simulators*, (Forum) JPT Jan., 77
- Fertl, W. H. et al.: *A Look at Cement Bond Logs*, (Tech. Paper) JPT June, 607
- Finn, L. D. et al.: *Measuring Construction Stresses in Off-shore Pipeline*, (Tech. Paper) JPT Mar., 261
- Fontenot, J. E. and Clark, R. K.: *An Improved Method for Calculating Swab and Surge Pressures and Circulating Pressures in a Drilling Well*, (Tech. Paper) SPEJ Oct., 451
- Fontenot, J. E. and Simpson, J. P.: *A Microbit Investigation of the Potential for Improving the Drilling Rate of Oil-Base Muds in Low-Permeability Rocks*, (Tech. Paper) JPT May, 507
- Forman, S. E. and Secor, G. A.: *The Mechanics of Rock Failure Due to Water Jet Impingement*, (Tech. Paper) SPEJ Feb., 10
- Fulton, P. F. and Dabbous, M. K.: *Low-Temperature-Oxidation Reaction Kinetics and Effects on the In-Situ Combustion Process*, (Tech. Paper) SPEJ June, 253
- Fulton, P. F. et al.: *Air-Water Relative Permeability Studies of Pittsburgh and Pocahontas Coals*, SPEJ Dec., 556
- The Permeability of Coal to Gas and Water*, SPEJ Dec., 563

## G

- Garcia, J. A.: *A System for Removing and Disposing of Produced Sand*, (Tech. Paper) JPT Apr., 450
- Garon, A. M. and Wygal, R. J., Jr.: *A Laboratory Investigation of Fire-Water Flooding*, (Tech. Paper) SPEJ Dec., 537
- Gavalas, G. R. et al.: *A New Algorithm for Automatic History Matching*, SPEJ Dec., 593
- Geertsma, J.: *Estimating the Coefficient of Inertial Resistance in Fluid Flow Through Porous Media*, (Tech. Paper) SPEJ Oct., 445
- George, W. D. et al.: *Three-Dimensional Simulation of Steam-flooding*, SPEJ Dec., 573
- Ghauri, W. K. et al.: *Changing Concepts in Carbonate Waterflooding — West Texas Denver Unit Project — An Illustrative Example*, (Tech. Paper) JPT June, 595
- Gogarty, W. B. et al.: *Pressure Falloff Analysis in Reservoirs With Fluid Banks*, JPT July, 809; discussion, 818
- Gohel, H. K. and Downs, S. L.: *Injection Profile Corrections — A Review of Workover Techniques, Willard Unit*, (Tech. Paper) JPT May, 557
- Goldberg, B. and Chesnut, D. A.: *A Model for Events Occurring at Random Points in Time and an Example Application to Casing Failures in Cedar Creek Anticline Wells*, (Tech. Paper) SPEJ Oct., 482
- Gordon, J. R. et al.: *A New Completion System for Surface-Controlled Subsurface Safety Valves*, (Tech. Paper) JPT Mar., 331
- Gould, T. L.: *Discussion on An Evaluation of Critical Multiphase Flow Performance Through Wellhead Chokes*, (Tech. Paper) JPT Aug., 849
- Vertical Two-Phase Steam-Water Flow in Geothermal Wells*, (Tech. Paper) JPT Aug., 833
- Gould, T. L. et al.: *Two-Phase Flow Through Vertical, Inclined, or Curved Pipe*, JPT Aug., 915
- Graue, D. J. and Johnson, C. E., Jr.: *Field Trial of Caustic Flooding Process*, (Tech. Paper) JPT Dec., 1353
- Gray, K. E. and Haynes, C. D.: *Sand Particle Transport in Perforated Casing*, (Tech. Paper) JPT Jan., 80
- Green, D. W. and Rosenwald, G. W.: *A Method for Determining the Optimum Location of Wells in a Reser-*

voir Using Mixed-Integer Programming, SPEJ Feb., 44

- Greene, E. B. et al.: *In-Situ Acid Neutralization System Solves Facility Upset Problems*, (Forum) JPT Oct., 1153
- Gringarten, A. C. and Ramey, H. J., Jr.: *Unsteady-State Pressure Distributions Created by a Well With a Single Horizontal Fracture, Partial Penetration, or Restricted Entry*, SPEJ Aug., 413
- Gringarten, A. C. et al.: *Unsteady-State Pressure Distributions Created by a Well With a Single Infinite-Conductivity Vertical Fracture*, SPEJ Aug., 347
- Guin, J. A. and Roberts, L. D.: *The Effect of Surface Kinetics in Fracture Acidizing*, SPEJ Aug., 385

## H

- Haden, E. L. et al.: *Drill-Cutting Transport in Full-Scale Vertical Annuli*, (Tech. Paper) JPT Nov., 1295; discussion, 1302
- Hagoort, J.: *Displacement Stability of Water Drives in Water-Weil Connate-Water-Bearing Reservoirs*, SPEJ Feb., 63
- Haimson, B. C. and Tharp, T. M.: *Stresses Around Boreholes in Bilinear Elastic Rock*, (Tech. Paper) SPEJ Apr., 145
- Ham, J. D. et al.: *Parameters for Computing Pressure Gradients and the Equilibrium Saturation of Gas-Condensate Fluids Flowing in Sandstones*, (Tech. Paper) SPEJ June, 203
- Hartman, D. E. et al.: *Determining Residual Oil With the Nuclear Magnetism Log*, JPT Feb., 226
- Hartmann, D. J. and Kieke, E. M.: *Detecting Microporosity To Improve Formation Evaluation*, (Tech. Paper) JPT Oct., 1080
- Harvey, A. H. et al.: *Numerical Simulation of Individual Wells in a Field Simulation Model*, (Tech. Paper) SPEJ Aug., 315
- Hasan, S. M.: *Curry Unit: A Successful Waterflood in a Depleted Carbonate Reservoir With High Gas Saturation*, (Tech. Paper) JPT Dec., 1359
- Hasiba, H. H. et al.: *Alkaline Waterflooding for Wettability Alteration — Evaluating a Potential Field Application*, (Tech. Paper) JPT Dec., 1335
- Haynes, C. D. and Gray, K. E.: *Sand Particle Transport in Perforated Casing*, (Tech. Paper) JPT Jan., 80
- Healy, R. N. and Reed, R. L.: *Physicochemical Aspects of Microemulsion Flooding*, SPEJ Oct., 491
- Henderson, L. E.: *The Use of Numerical Simulation To Design a Carbon Dioxide Miscible Displacement Project*, (Tech. Paper) JPT Dec., 1327
- Higgins, R. V. and Leighton, A. J.: *Matching Calculated With Actual Waterflood Performance by Estimating Some Reservoir Properties*, (Tech. Paper) JPT May, 501
- Hill, T. H. et al.: *A New Completion System for Surface-Controlled Subsurface Safety Valves*, (Tech. Paper) JPT Mar., 331
- Hinkle, B. B. and Vadgama, U. N.: *Exploration and Production Economics of Low-Permeability Shallow Gas Formations in Appalachia*, (Tech. Paper) JPT Sept., 985
- Hirasaki, G. J.: *Pulse Tests and Other Early Transient Pressure Analyses for In-Situ Estimation of Vertical Permeability*, SPEJ Feb., 75
- Hirasaki, G. J. and Pope, G. A.: *Analysis of Factors Influencing Mobility and Adsorption in the Flow of Polymer Solution Through Porous Media*, (Tech. Paper) SPEJ Aug., 337
- Holm, L. W. and Josendal, V. A.: *Mechanisms of Oil Displacement by Carbon Dioxide*, JPT Dec., 1427; discussion, 1436
- Hopkinson, E. C. et al.: *Carbon/Oxygen (C/O) Logging Instrumentation*, (Tech. Paper) SPEJ Oct., 463
- Hoyer, W. A. and Lock, G. A.: *Carbon-Oxygen (C/O) Log: Use and Interpretation*, (Tech. Paper) JPT Sept., 1044
- Huppler, J. D.: *Scheduling Gas Field Production for Maximum Profit*, SPEJ June, 279

## I

- Ilfrey, W. T. and Masonheimer, R. A.: *Use of Float Modules To Supplement Mechanical Tensioning of Marine Risers*, (Forum) JPT Apr., 445

## J

- Jack, R. S.: *Using CNL-FDC Logging To Distinguish Oil, Water, and Gas Zones — Texas Gulf Coast*, (Tech. Paper) JPT Sept., 990
- Jacoby, R. H. et al.: *A Beta-Type Reservoir Simulator for Approximating Compositional Effects During Gas Injection*, (Tech. Paper) SPEJ Oct., 471
- Jennings, H. Y., Jr. et al.: *A Caustic Waterflooding Process for Heavy Oils*, (Tech. Paper) JPT Dec., 1344
- Jewett, R. L. et al.: *Improvements in Polymer Flooding: The Programmed Slug and the Polymer-Conserving Agent*, (Tech. Paper) JPT Jan., 33
- Johnson, C. E., Jr. and Graue, D. J.: *Field Trial of Caustic Flooding Process*, (Tech. Paper) JPT Dec., 1353
- Johnson, C. E., Jr. et al.: *A Caustic Waterflooding Process for Heavy Oils*, (Tech. Paper) JPT Dec., 1344
- Jones, L. G. and Odeh, A. S.: *Two-Rate Flow Test, Variable-Rate Case — Application to Gas-Lift and Pumping Wells*, JPT Jan., 93
- Jones, L. G. et al.: *Estimating Maximum Sand-Free Production Rates From Friable Sands for Different Well Completion Geometries*, JPT Oct., 1156
- Jones, S. C. et al.: *Discussion on Micellar Flooding — Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 643
- Josendal, V. A. and Holm, L. W.: *Mechanisms of Oil Displacement by Carbon Dioxide*, JPT Dec., 1427; discussion, 1436

## K

- Katz, D. L. et al.: *Two-Phase Flow Through Vertical, Inclined, or Curved Pipe*, JPT Aug., 915
- Kazemi, H.: *Determining Average Reservoir Pressure From Pressure Buildup Tests*, SPEJ Feb., 55
- Kazemi, H. et al.: *Pressure Falloff Analysis in Reservoirs With Fluid Banks*, JPT July, 809; discussion, 818
- Keese, J. A. et al.: *Thermal Behavior of Unconsolidated Oil Sands*, (Tech. Paper) SPEJ Oct., 513
- Keleher, J. F. and Cheng, A. P.: *First Jack-Up Production Platform in the North Sea*, (Forum) JPT Mar., 323
- Kemp, L. F., Jr. et al.: *Performance Matching With Constraints*, SPEJ Apr., 187
- Kendall, H. A. and Norton, P.: *Clay Mineralogy and Solutions to the Clay Problems in Norway*, (Tech. Paper) JPT Jan., 25
- Keprta, D. F. and Macicek, L. V.: *Platform Riser Repair and Protection*, (Forum) JPT Apr., 448
- Kersch, K. M. and Earllougher, R. C., Jr.: *Analysis of Short-Time Transient Test Data by Type-Curve Matching*, JPT July, 793
- Kersch, K. M. et al.: *Some Characteristics of Pressure Buildup Behavior in Bounded Multiple-Layered Reservoirs Without Crossflow*, JPT Oct., 1178
- Kerver, J. K. et al.: *Externally Catalyzed Epoxy for Sand Control*, (Tech. Paper) JPT June, 589
- Kieke, E. M. and Hartmann, D. J.: *Detecting Microporosity To Improve Formation Evaluation*, (Tech. Paper) JPT Oct., 1080
- Kiel, O. M. et al.: *Polymer Emulsion Fracturing*, (Tech. Paper) JPT July, 731
- Kingsley, G. S. et al.: *New Gas-Lift Concept — Continuous-Flow Production Rates From Deep, Low-Pressure Wells*, (Tech. Paper) JPT Jan., 13
- Kirklen, C. A.: *Effectiveness of Well Casing Cathodic Protection — An Analysis*, (Tech. Paper) JPT July, 724
- Klotz, J. A. et al.: *Effect of Perforation Damage on Well Productivity*, JPT Nov., 1303
- Knight, B. L.: *Discussion on Some Reactions of Microgel in Polyacrylamide Solutions*, (Forum) JPT May, 547
- Knight, B. L. et al.: *Discussion on Micellar Flooding — Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 643
- Knowles, C. R. et al.: *Studies of Pressures Generated Upon Refreezing of Thawed Permafrost Around a Wellbore*, JPT Oct., 1159
- Kojic, M. and Cheatham, J. B., Jr.: *Analysis of the Influence of Fluid Flow on the Plasticity of Porous Rock Under an Axially Symmetric Punch*, SPEJ June, 271
- Theory of Plasticity of Porous Media With Fluid Flow, SPEJ June, 263
- Kolodzie, P. A. et al.: *Oil Recovery by Alkaline Waterflooding*, (Tech. Paper) JPT Dec., 1365



- Korry, D. E. and Walker, R. E.: *Field Method of Evaluating Annular Performance of Drilling Fluids*, (Tech. Paper) JPT Feb., 167
- Krech, W. W. and Chamberlain, P. G.: *New Techniques for Measuring Rock Fracture Energy*, (Tech. Paper) SPEJ June, 237
- Krueger, R. F. et al.: *Effect of Perforation Damage on Well Productivity*, JPT Nov., 1303
- Kumar, A. and Ramey, H. J., Jr.: *Well-Test Analysis for a Well in a Constant-Pressure Square*, (Tech. Paper) SPEJ Apr., 107
- Kunzman, W. J. et al.: *Some Characteristics of Pressure Buildup Behavior in Bounded Multiple-Layered Reservoirs Without Crossflow*, JPT Oct., 1178

## L

- Laurie, A. M. et al.: *New Gravel Pack Tool for Improving Pack Placement*, (Tech. Paper) JPT Jan., 19
- Lawson, J. D. and Brill, J. P.: *A Statistical Evaluation of Methods Used to Predict Pressure Losses for Multiphase Flow in Vertical Oilwell Tubing*, JPT Aug., 903; discussion, 913
- Lehner, F. and Williamson, A. S.: *Gas-Blowout Control by Water Injection Through Relief Wells—A Theoretical Analysis*, (Tech. Paper) SPEJ Aug., 321
- Lehr, W. E.: *Containment and Recovery Devices for Oil Spill Cleanup Operations*, (Tech. Paper) JPT Apr., 375
- Leighton, A. J. and Higgins, R. V.: *Matching Calculated With Actual Waterflood Performance by Estimating Some Reservoir Properties*, (Tech. Paper) JPT May, 501
- Lock, G. A. and Hoyer, W. A.: *Carbon-Oxygen (C/O) Log: Use and Interpretation*, (Tech. Paper) JPT Sept., 1044
- Loren, J. D. et al.: *Determining Residual Oil With the Nuclear Magnetism Log*, JPT Feb., 226
- Luque, R. F. and van Beek, R.: *The Effect of Shallow-Water Waves on the Stability and Bearing Capacity of Sea Beds*, (Tech. Paper) SPEJ Aug., 330
- Lybarger, J. H. et al.: *In-Situ Acid Neutralization System Solves Facility Upset Problems*, (Forum) JPT Oct., 1153

## M

- Macicek, L. V. and Keppta, D. F.: *Platform Riser Repair and Protection*, (Forum) JPT Apr., 448
- Magnuson, W. L. et al.: *Changing Concepts in Carbonate Waterflooding—West Texas Denver Unit Project—An Illustrative Example*, (Tech. Paper) JPT June, 595
- Maly, G. P. et al.: *New Gravel Pack Tool for Improving Pack Placement*, (Tech. Paper) JPT Jan., 19
- Maravilla, S.: *A Hydrothermal Setting Cement for Cementing Ultradeep, Hot Wells*, (Tech. Paper) JPT Oct., 1087
- Marcum, B. E. et al.: *Three-Dimensional Simulation of Steamflooding*, SPEJ Dec., 573
- Masonheimer, R. A. and Christman, S. A.: *Drillstem-Test Assemblies for Floating Vessels*, (Tech. Paper) JPT Aug., 851
- Masonheimer, R. A. and Ilfrey, W. T.: *Use of Float Modules To Supplement Mechanical Tensioning of Marine Risers*, (Forum) JPT Apr., 445
- Masonheimer, R. A. and Sheffield, J. R.: *An Acoustic-Mechanical Method of Re-establishing Communication With Subsea Systems*, (Tech. Paper) JPT Oct., 1075
- Mazzocchi, E. F. and Carter, K. M.: *Pilot Application of a Blocking Agent—Weyburn Unit, Saskatchewan*, (Tech. Paper) JPT Sept., 973
- McAuley, J. D. and Copeland, C. T.: *Controlling Sand With an Epoxy-Coated, High-Solids-Content Gravel Slurry*, (Tech. Paper) JPT Nov., 1215
- McAuliffe, C. D. et al.: *A Caustic Waterflooding Process for Heavy Oils*, (Tech. Paper) JPT Dec., 1344
- McCauley, T. V.: *Planning Workovers in Wells With Fault-Damaged Casing—South Pass Block 27 Field*, (Tech. Paper) JPT July, 739
- McDonald, W. J., Jr., et al.: *Application of Inverse Simulation to a Complex Multireservoir System*, JPT July, 801

- McKinley, R. M.: *Estimating Flow Efficiency From After-flow-Distorted Pressure Buildup Data*, (Forum) JPT June, 696
- McLeod, D. L. and McLeod, W. R.: *Measures To Combat Arctic and Subarctic Oil Spills*, (Tech. Paper) JPT Mar., 269
- McLeod, W. R. and McLeod, D. L.: *Measures To Combat Arctic and Subarctic Oil Spills*, (Tech. Paper) JPT Mar., 269
- McPhail, J. F. et al.: *Measuring Construction Stresses in Off-shore Pipeline*, (Tech. Paper) JPT Mar., 261
- McWilliams, J. B.: *High-Viscosity Crude Squeeze—An Effective Gas Shutoff Technique*, (Tech. Paper) JPT May, 551
- Meijs, F. H. and Mitchell, R. W.: *Studies on the Improvement of Coalescence Conditions of Oilfield Emulsions*, (Tech. Paper) JPT May, 563
- Meltzer, B. D.: *Flooding for Tertiary Recovery After Successful Gas Injection for Secondary Recovery—Brookhaven, Mississippi*, (Tech. Paper) JPT July, 783
- Merrill, L. S., Jr., et al.: *Pressure Falloff Analysis in Reservoirs With Fluid Banks*, JPT July, 809; discussion, 818
- Messer, P. H. et al.: *Calculation of Bottom-Hole Pressures for Deep, Hot, Sour Gas Wells*, (Tech. Paper) JPT Jan., 85
- Metcalf, R. S. and Yarborough, L.: *Discussion on Mechanisms of Oil Displacement by Carbon Dioxide*, JPT Dec., 1436
- Minssieux, L.: *Oil Displacement by Foams in Relation to Their Physical Properties in Porous Media*, JPT Jan., 100
- Mistrot, G. A. et al.: *Use of Injection-Falloff Tests To Evaluate Storage Reservoirs*, (Tech. Paper) JPT May, 494
- Mitchell, R. W. and Meijs, F. H.: *Studies on the Improvement of Coalescence Conditions of Oilfield Emulsions*, (Tech. Paper) JPT May, 563
- Montgomery, J. W. et al.: *A Field Test and Analytical Study of Intermittent Gas Lift*, SPEJ Oct., 502
- Mrosovsky, I. and Ridings, R. L.: *Two-Dimensional Radial Treatment of Wells Within a Three-Dimensional Reservoir Model*, (Tech. Paper) SPEJ Apr., 127
- Muecke, T. W.: *Factors Influencing the Deterioration of Plastic Sand Consolidation Treatments*, (Tech. Paper) JPT Feb., 157
- Muecke, T. W. et al.: *Externally Catalyzed Epoxy for Sand Control*, (Tech. Paper) JPT June, 589
- Myers, G. M. et al.: *Drill-Cutting Transport in Full-Scale Vertical Annuli*, (Tech. Paper) JPT Nov., 1295; discussion, 1302

## N

- Nader, W. and Neale, G.: *Formulation of Boundary Conditions at the Surface of a Porous Medium*, (Forum) SPEJ Oct., 434
- Nancollas, G. H. and Reddy, M. M.: *The Kinetics of Crystallization of Scale-Forming Minerals*, (Tech. Paper) SPEJ Apr., 117
- Neale, G. and Nader, W.: *Formulation of Boundary Conditions at the Surface of a Porous Medium*, (Forum) SPEJ Oct., 434
- Neely, A. B. et al.: *A Field Test and Analytical Study of Intermittent Gas Lift*, SPEJ Oct., 502
- Ness, N. L. et al.: *A Tertiary CO<sub>2</sub> Pilot Test in the Sloss Field, Nebraska*, JPT June, 667
- Norton, P. and Kendall, H. A.: *Clay Mineralogy and Solutions to the Clay Problems in Norway*, (Tech. Paper) JPT Jan., 25

## O

- Odeh, A. S. and Jones, L. G.: *Two-Rate Flow Test, Variable-Rate Case—Application to Gas-Lift and Pumping Wells*, JPT Jan., 93
- Odeh, A. S. et al.: *Estimating Maximum Sand-Free Production Rates From Friable Sands for Different Well Completion Geometries*, JPT Oct., 1156
- Okaro, J. C. et al.: *Measuring Construction Stresses in Off-shore Pipeline*, (Tech. Paper) JPT Mar., 261



- Orkiszewski, J.: *Discussion on Two-Phase Vertical Flow in Oil Wells—Prediction of Pressure Drop*, JPT Aug., 937
- Osborne, A. F. et al.: *Changing Concepts in Carbonate Waterflooding—West Texas Denver Unit Project—An Illustrative Example*, (Tech. Paper) JPT June, 595

## P

- Palmer, A. C. and Baldry, J. A. S.: *Lateral Buckling of Axially Constrained Pipelines*, (Forum) JPT Nov., 1283
- Parrish, D. R. and Craig, F. F., Jr.: *A Multipilot Evaluation of the COFCAW Process*, (Tech. Paper) JPT June, 659
- Parrish, D. R. et al.: *A Tertiary COFCAW Pilot Test in the Sloss Field, Nebraska*, JPT June, 667
- Evaluation of COFCAW as a Tertiary Recovery Method*, Sloss Field, Nebraska, JPT June, 676
- Micellar Flooding—Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 633; discussion, 643
- Parsons, R. W.: *Velocities in Developed Five-Spot Patterns*, (Forum) JPT May, 550
- Parsons, R. W. et al.: *Discussion on Micellar Flooding—Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 643
- Peaceman, D. W. et al.: *Discussion on Use of Irregular Grid in Cylindrical Coordinates*, SPEJ Aug., 403
- Penberthy, W. L., Jr., and Bayless, J. H.: *Silicate Foam Wellbore Insulation*, (Tech. Paper) JPT June, 583
- Peng, S. S. et al.: *The Behavior of Salem Limestone in Cyclic Loading*, (Tech. Paper) SPEJ Feb., 19
- Perkins, T. K. and Ruedrich, R. A.: *A Study of Factors Influencing the Mechanical Properties of Deep Permafrost*, JPT Oct., 1167
- Perkins, T. K. et al.: *Studies of Pressures Generated Upon Refreezing of Thawed Permafrost Around a Wellbore*, JPT Oct., 1159
- Pierce, A. C. et al.: *Performance Matching With Constraints*, SPEJ Apr., 187
- Pilkington, P. E. et al.: *A Look at Cement Bond Logs*, (Tech. Paper) JPT June, 607
- Podnieks, E. R. et al.: *The Behavior of Salem Limestone in Cyclic Loading*, (Tech. Paper) SPEJ Feb., 19
- Pollock, C. B. and Buxton, T. S.: *The Sloss COFCAW Project—Further Evaluation of Performance During and After Air Injection*, JPT Dec., 1439
- Pollock, C. B. et al.: *A Tertiary COFCAW Pilot Test in the Sloss Field, Nebraska*, JPT June, 667
- Pope, G. A. and Hirasaki, G. J.: *Analysis of Factors Influencing Mobility and Adsorption in the Flow of Polymer Solution Through Porous Media*, (Tech. Paper) SPEJ Aug., 337
- Price, H. S. and Coats, K. H.: *Direct Methods in Reservoir Simulation*, SPEJ June, 295
- Purvin, R. L.: *Contributions of Synthetic Fuels*, (Tech. Paper) JPT Feb., 139
- Pye, D. S. et al.: *Effect of Perforation Damage on Well Productivity*, JPT Nov., 1303

## R

- Rachford, H. H., Jr., and Dupont, T.: *A Fast, Highly Accurate Means of Modeling Transient Flow in Gas Pipeline Systems by Variational Methods*, SPEJ Apr., 165; discussion, 175
- Some Applications of Transient Flow Simulation To Promote Understanding the Performance of Gas Pipeline Systems*, SPEJ Apr., 179; discussion, 185
- Raghavan, R. et al.: *Calculation of Bottom-Hole Pressures for Deep, Hot, Sour Gas Wells*, (Tech. Paper) JPT Jan., 85
- Unsteady-State Pressure Distributions Created by a Well With a Single Infinite-Conductivity Vertical Fracture*, SPEJ Aug., 347
- Well-Test Analysis for Wells Producing From Two Commingled Zones of Unequal Thickness*, JPT Sept., 1035
- Raimondi, P. et al.: *Alkaline Waterflooding for Wettability Alteration—Evaluating a Potential Field Application*, (Tech. Paper) JPT Dec., 1335
- Ramesh, A. B. et al.: *A Beta-Type Reservoir Simulator for Approximating Compositional Effects During Gas*

- Injection*, (Tech. Paper) SPEJ Oct., 471
- Ramey, H. J., Jr., and Gringarten, A. C.: *Unsteady-State Pressure Distributions Created by a Well With a Single Horizontal Fracture, Partial Penetration, or Restricted Entry*, SPEJ Aug., 413
- Ramey, H. J., Jr., and Kumar, A.: *Well-Test Analysis for a Well in a Constant-Pressure Square*, (Tech. Paper) SPEJ Apr., 107
- Ramey, H. J., Jr., et al.: *Calculation of Bottom-Hole Pressures for Deep, Hot, Sour Gas Wells*, (Tech. Paper) JPT Jan., 85
- Unsteady-State Pressure Distributions Created by a Well With a Single Infinite-Conductivity Vertical Fracture*, SPEJ Aug., 347
- Well-Test Analysis for Wells Producing From Two Commingled Zones of Unequal Thickness*, JPT Sept., 1035
- Reddy, M. M. and Nancollas, G. H.: *The Kinetics of Crystallization of Scale-Forming Minerals*, (Tech. Paper) SPEJ Apr., 117
- Redic, J. G.: *Analysis of Appalachian Basic Economics*, (Tech. Paper) JPT July, 717
- Reed, R. L. and Healy, R. N.: *Physicochemical Aspects of Microemulsion Flooding*, SPEJ Oct., 491
- Reznik, A. A. et al.: *Air-Water Relative Permeability Studies of Pittsburgh and Pocahontas Coals*, SPEJ Dec., 556
- The Permeability of Coal to Gas and Water*, SPEJ Dec., 563
- Richardson, E. A. et al.: *In-Situ Acid Neutralization System Solves Facility Upset Problems*, (Forum) JPT Oct., 1153
- Rickey, W. P. et al.: *Externally Catalyzed Epoxy for Sand Control*, (Tech. Paper) JPT June, 589
- Ridings, R. L. and Mrosovsky, I.: *Two-Dimensional Radial Treatment of Wells Within a Three-Dimensional Reservoir Model*, (Tech. Paper) SPEJ Apr., 127
- Rieke, H. H., III, and Skidmore, D. R.: *Geothermal Energy Potential in Northern Appalachia*, (Forum) JPT Sept., 1005
- Roberts, L. D. and Guin, J. A.: *The Effect of Surface Kinetics in Fracture Acidizing*, SPEJ Aug., 385
- Roberts, L. D. and Sutton, G. D.: *Paraffin Precipitation During Fracture Stimulation*, (Tech. Paper) JPT Sept., 997
- Robinson, J. D. et al.: *Determining Residual Oil With the Nuclear Magnetism Log*, JPT Feb., 226
- New Gravel Pack Tool for Improving Pack Placement*, (Tech. Paper) JPT Jan., 19
- Robinson, J. R. et al.: *Evaluation of Three New Methods for Predicting Pressure Losses in Vertical Oilwell Tubing*, (Tech. Paper) JPT Aug., 829
- Rochon, J. A. et al.: *Studies of Pressures Generated Upon Refreezing of Thawed Permafrost Around a Wellbore*, JPT Oct., 1159
- Rogers, W. L. and Chappelaar, J. E.: *Some Practical Considerations in the Construction of a Semi-Implicit Simulator*, (Tech. Paper) SPEJ June, 217
- Rohmaller, P. L. et al.: *Measuring Construction Stresses in Offshore Pipeline*, (Tech. Paper) JPT Mar., 261
- Rosenwald, G. W. and Green, D. W.: *A Method for Determining the Optimum Location of Wells in a Reservoir Using Mixed-Integer Programming*, SPEJ Feb., 44
- Rudkin, R. A.: *Petroleum Potential of Arctic Canada*, (Tech. Paper) JPT Feb., 143
- Ruedrich, R. A. and Perkins, T. K.: *A Study of Factors Influencing the Mechanical Properties of Deep Permafrost*, JPT Oct., 1167
- Russell, L. R. and Schueller, G. I.: *Probabilistic Models for Texas Gulf Coast Hurricane Occurrences*, (Tech. Paper) JPT Mar., 279

## S

- Saucier, R. J.: *Considerations in Gravel Pack Design*, JPT Feb., 205
- Sawabini, C. T. et al.: *Compressibility of Unconsolidated, Arkosic Oil Sands*, (Tech. Paper) SPEJ Apr., 132
- Sawyer, D. N. et al.: *Factorial Design Analysis of Wet-Combustion Drive*, (Tech. Paper) SPEJ Feb., 25
- Scanlon, F. C. et al.: *Improvements in Polymer Flooding: The Programmed Slug and the Polymer-Conserving Agent*, (Tech. Paper) JPT Jan., 33

- Schols, R. S. and Dumoré, J. M.: *Drainage Capillary-Pressure Functions and the Influence of Connate Water*, (Tech. Paper) SPEJ Oct., 437
- Schuëller, G. I. and Russell, L. R.: *Probabilistic Models for Texas Gulf Coast Hurricane Occurrences*, (Tech. Paper) JPT Mar., 279
- Schultz, W. E. and Smith, H. D., Jr.: *Laboratory and Field Evaluation of a Carbon/Oxygen (C/O) Well Logging System*, (Tech. Paper) JPT Oct., 1103
- Schwartz, S.: *Forecast of Domestic Crude Oil Prices*, (Tech. Paper) JPT Feb., 135
- Sclocchi, G. et al.: *Discussion on a Statistical Evaluation of Methods Used To Predict Pressure Losses for Multiphase Flow in Vertical Oilwell Tubing*, JPT Aug., 913
- Two-Phase Vertical Flow in Oil Wells — Prediction of Pressure Drop*, JPT Aug., 927; discussion, 937
- Scott, J. B. et al.: *A Look at Cement Bond Log*, (Tech. Paper) JPT June, 607
- Secor, G. A. and Forman, S. E.: *The Mechanics of Rock Failure Due to Water Jet Impingement*, (Tech. Paper) SPEJ Feb., 10
- Seinfeld, J. H. et al.: *A New Algorithm for Automatic History Matching*, SPEJ Dec., 593
- Settari, A. and Aziz, K.: *A Computer Model for Two-Phase Coning Simulation*, (Tech. Paper) SPEJ June, 221
- Use of Irregular Grid in Cylindrical Coordinates*, SPEJ Aug., 396; discussion, 405
- Sheffield, J. R. and Masonheimer, R. A.: *An Acoustic-Mechanical Method of Re-establishing Communication With Subsea Systems*, (Tech. Paper) JPT Oct., 1075
- Sifferman, T. R. et al.: *Drill-Cutting Transport in Full-Scale Vertical Annuli*, (Tech. Paper) JPT Nov., 1295; discussion, 1302
- Simpson, J. P. and Fontenot, J. E.: *A Microbit Investigation of the Potential for Improving the Drilling Rate of Oil-Base Muds in Low-Permeability Rocks*, (Tech. Paper) JPT May, 507
- Sinclair, A. R. et al.: *Polymer Emulsion Fracturing* (Tech. Paper) JPT July, 731
- Skidmore, D. R. and Rieke, H. H., III: *Geothermal Energy Potential in Northern Appalachia*, (Forum) JPT Sept., 1005
- Smith, H. D., Jr., and Schultz, W. E.: *Laboratory and Field Evaluation of a Carbon/Oxygen (C/O) Well Logging System*, (Tech. Paper) JPT Oct., 1103
- Smith, M. B.: *Probability Estimates for Petroleum Drilling Decisions*, JPT June, 687
- Snyder, R. W. et al.: *Use of Injection-Falloff Tests To Evaluate Storage Reservoirs*, (Tech. Paper) JPT May, 494
- Solanas, D. W.: *Update — Outer Continental Shelf Lease Management Program*, (Tech. Paper) JPT Apr., 388
- Somerton, W. H. et al.: *Thermal Behavior of Unconsolidated Oil Sands*, (Tech. Paper) SPEJ Oct., 513
- Sonier, F. and Chaumet, P.: *A Fully Implicit Three-Dimensional Model in Curvilinear Coordinates*, SPEJ Aug., 361
- Spivak, A.: *Gravity Segregation in Two-Phase Displacement Processes*, SPEJ Dec., 619
- Stalkup, F. I. et al.: *Factorial Design Analysis of Wet-Combustion Drive*, (Tech. Paper) SPEJ Feb., 25
- Stein, N. et al.: *Estimating Maximum Sand-Free Production Rates From Friable Sands for Different Well Completion Geometries*, JPT Oct., 1156
- Stone, H. L. et al.: *Application of Inverse Simulation to a Complex Multireservoir System*, JPT July, 801
- Discussion on Use of Irregular Grid in Cylindrical Coordinates*, SPEJ Aug., 403
- Stoner, M. A.: *Discussion on a Fast, Highly Accurate Means of Modeling Transient Flow in Gas Pipeline Systems by Variational Methods*, SPEJ Apr., 175
- Discussion on Some Applications of Transient Flow Simulation To Promote Understanding the Performance of Gas Pipeline Systems*, SPEJ Apr., 179; discussion, 185
- Stoner, M. A. et al.: *Unsteady-State Natural-Gas Calculations in Complex Pipe Systems*, (Tech. Paper) SPEJ Feb., 35
- Streeter, V. L. et al.: *Unsteady-State Natural-Gas Calculations in Complex Pipe Systems*, (Tech. Paper) SPEJ Feb., 35
- Sutton, G. D. and Roberts, L. D.: *Paraffin Precipitation During Fracture Stimulation*, (Tech. Paper) JPT Sept., 997
- Sybert, J. H.: *A New Offshore Platform and Drilling Concept Effects Reduced Costs*, (Tech. Paper) JPT Apr., 395
- Szabo, M. T.: *New Methods for Measuring Imbibition Capillary Pressure and Electrical Resistivity Curves by Centrifuge*, (Tech. Paper) SPEJ June, 243

## T

- Taber, J. J. et al.: *Air-Water Relative Permeability Studies of Pittsburgh and Pocahontas Coals*, SPEJ Dec., 556
- The Permeability of Coal to Gas and Water*, SPEJ Dec., 563
- Tek, M. R.: *Discussion on Two-Phase Vertical Flow in Oil Wells — Prediction of Pressure Drop*, JPT Aug., 937
- Tek, M. R. et al.: *Two-Phase Flow Through Vertical, Inclined, or Curved Pipe*, JPT Aug., 915
- Terry, W. M. et al.: *Polymer Emulsion Fracturing*, (Tech. Paper) JPT July, 731
- Thachuk, A. R. and Thompson, F. R.: *Compositional Simulation of a Gas-Cycling Project, Bonnie Glen D-3A Pool, Alberta, Canada*, (Tech. Paper) JPT Nov., 1285
- Thekur, G. C. and Burcik, E. J.: *Some Reactions of Microgel in Polyacrylamide Solutions*, (Forum) JPT May, 545; discussion, 547
- Tharp, T. M. and Haimson, B. C.: *Stresses Around Boreholes in Bilinear Elastic Rock*, (Tech. Paper) SPEJ Apr., 145
- Thomas, E. C. and Waxman, M. H.: *Electrical Conductivities in Shaly Sands — I. The Relation Between Hydrocarbon Saturation and Resistivity Index; II. The Temperature Coefficient of Electrical Conductivity*, JPT Feb., 213
- Thompson, F. R. and Thachuk, A. R.: *Compositional Simulation of a Gas-Cycling Project, Bonnie Glen D-3A Pool, Alberta, Canada*, (Tech. Paper) JPT Nov., 1285
- Topaloglu, H. N. et al.: *Well-Test Analysis for Wells Producing From Two Commingled Zones of Unequal Thickness*, JPT Sept., 1035
- Toronyi, R. M. and Farouq Ali, S. M.: *Determining Interblock Transmissibility in Reservoir Simulators*, (Forum) JPT Jan., 77
- Trushenski, S. P. et al.: *Micellar Flooding — Fluid Propagation, Interaction, and Mobility*, SPEJ Dec., 633; discussion, 643
- Tuttle, R. N. and Barkman, J. H.: *New Nondamaging and Acid-Degradable Drilling and Completion Fluids*, (Tech. Paper) JPT Nov., 1221

## U

- Uzoigwe, A. C. et al.: *Improvements in Polymer Flooding: The Programmed Slug and the Polymer-Conserving Agent*, (Tech. Paper) JPT Jan., 33

## V

- Vadgama, U. N. and Hinkle, B. B.: *Exploration and Production Economics of Low-Permeability Shallow Gas Formations in Appalachia*, (Tech. Paper) JPT Sept., 985
- Vajnar, E. A. et al.: *Determining Residual Oil With the Nuclear Magnetism Log*, JPT Feb., 226
- van Beek, R. and Luque, R. F.: *The Effect of Shallow-Water Waves on the Stability and Bearing Capacity of Sea Beds*, (Tech. Paper) SPEJ Aug., 330
- van der Voet, G. and Woods, R. W.: *Waterflood Performance of a Shaly Sand Reservoir, Smiley-Dewar Field, Saskatchewan*, (Tech. Paper) JPT Dec., 1375
- van Domselaar, H. R. and Visser, W.: *Proppant Concentration in and Final Shape of Fractures Generated by Viscous Gels*, (Tech. Paper) SPEJ Dec., 531
- Visser, W. and van Domselaar, H. R.: *Proppant Concentration in and Final Shape of Fractures Generated by Viscous Gels*, (Tech. Paper) SPEJ Dec., 531
- Vogel, J. V. et al.: *A Field Test and Analytical Study of Intermittent Gas Lift*, SPEJ Oct., 502

- Vogt, T. C. and Anderson, M. L.: *Optimizing the Profitability of Matrix Acidizing Treatments*, (Tech. Paper) JPT Sept., 1055
- Vohra, I. R. et al.: *Evaluation of Three New Methods for Predicting Pressure Losses in Vertical Oilwell Tubing*, (Tech. Paper) JPT Aug., 829

## W

- Wade, W. H.: *Spontaneous Imbibition of Fluids in Porous Vycor*, (Tech. Paper) SPEJ Apr., 139
- Wahl, H. A. et al.: *Drill-Cutting Transport in Full-Scale Vertical Annuli*, (Tech. Paper) JPT Nov., 1295; discussion, 1302
- Walker, R. E. and Korry, D. E.: *Field Method of Evaluating Annular Performance of Drilling Fluids*, (Tech. Paper) JPT Feb., 167
- Warner, D. G. et al.: *A New Completion System for Surface-Controlled Subsurface Safety Valves*, (Tech. Paper) JPT Mar., 331
- Wasserman, M. L. et al.: *A New Algorithm for Automatic History Matching*, SPEJ Dec., 593
- Watson, T. N.: *Scour in the North Sea*, (Tech. Paper) JPT Mar., 289
- Waxman, M. H. and Thomas, E. C.: *Electrical Conductivities in Shaly Sands — I. The Relation Between Hydrocarbon Saturation and Resistivity Index; II. The Temperature Coefficient of Electrical Conductivity*, JPT Feb., 213
- Weeks, S. G.: *Formation Damage or Limited Perforating Penetration? Test-Well Shooting May Give a Clue*, (Tech. Paper) JPT Sept., 979
- Weinstein, H. G.: *Extended Semianalytic Method for Increasing and Decreasing Boundary Temperatures*, SPEJ Apr., 152
- Williams, D. L. et al.: *Performance Matching With Constraints*, SPEJ Apr., 187
- Williams, R. E. et al.: *Oil Recovery by Alkaline Waterflood-*

*ing*, (Tech. Paper) JPT Dec., 1365

- Williamson, A. S. and Lehner, F.: *Gas-Blowout Control by Water Injection Through Relief Wells — A Theoretical Analysis*, (Tech. Paper) SPEJ Aug., 321
- Wilson, J. E.: *Potential Reserves of Domestic Oil and Gas*, (Tech. Paper) JPT Feb., 150
- Wilson, N. D. and Abel, W.: *Sea-Floor Scour Protection for a Semisubmersible Drilling Rig on the Nova Scotian Shelf*, (Tech. Paper) JPT Apr., 381
- Woods, E. G. et al.: *Application of Inverse Simulation to a Complex Multireservoir System*, JPT July, 801
- Woods, R. W. and van der Voet, G.: *Waterflood Performance of a Shaly Sand Reservoir, Smiley-Dewar Field, Saskatchewan*, (Tech. Paper) JPT Dec., 1375
- Wygal, R. J., Jr., and Garon, A. M.: *A Laboratory Investigation of Fire-Water Flooding*, (Tech. Paper) SPEJ Dec., 537
- Wylie, E. B. et al.: *Unsteady-State Natural-Gas Calculations in Complex Pipe Systems*, (Tech. Paper) SPEJ Feb., 35

## X

- Yarborough, L. and Metcalfe, R. S.: *Discussion on Mechanisms of Oil Displacement by Carbon Dioxide*, JPT Dec., 1436
- Youmans, A. H. et al.: *Carbon/Oxygen (C/O) Logging Instrumentation*, (Tech. Paper) SPEJ Oct., 463
- Young, F. S., Jr., and Bourgoynne, A. T., Jr.: *A Multiple Regression Approach to Optimal Drilling and Abnormal Pressure Detection*, SPEJ Aug., 371

## Z

- Zamora, M.: *Discussion on Drill-Cutting Transport in Full-Scale Vertical Annuli*, (Tech. Paper) JPT Nov., 1302

## Subject Index

### A

- Absorbents: oil spill usage: measure to combat in Arctic and Subarctic, (Tech. Paper) JPT Mar., 269
- Acidizing: fractures: effect of surface kinetics, SPEJ Aug., 385
- matrix: optimizing the profitability of treatments, (Tech. Paper) JPT Sept., 1055
- Acids: neutralization: in-situ system solves facility upset problems, (Forum) JPT Oct., 1153
- organic: in oil recovery by alkaline waterflooding, (Tech. Paper) JPT Dec., 1365
- Acoustic velocity logging: cement bond logs, (Tech. Paper) JPT June, 607
- Acoustics: mechanical method: re-establishing communication with subsea systems, (Tech. Paper) JPT Oct., 1075
- Adhesion: plastic: factors influencing deterioration of sand consolidation treatments, (Tech. Paper) JPT Feb., 157
- Adsorption: and mobility: analysis of influence on flow of polymer solution through porous media, (Tech. Paper) SPEJ Aug., 337
- Air injection: fire-water flooding: laboratory investigation, (Tech. Paper) SPEJ Dec., 537
- Alaska: Prudhoe Bay: study of factors influencing mechanical properties of deep permafrost, JPT Oct., 1167
- reserves: potential of oil and gas, (Tech. Paper) JPT Feb., 150
- Algorithms: for automatic history matching, SPEJ Dec., 593
- Analytical method: study: intermittent gas lift, SPEJ Oct., 502
- Anchors: drilling-vessel: performance in mud and sand bottoms, JPT Mar., 337
- Annulus: drilling fluids: performance, field method of evaluating, (Tech. Paper) JPT Feb., 167
- full-scale vertical: drill-cutting transport, (Tech. Paper) JPT Nov., 1295; discussion, 1302

- Appalachia: low-permeability shallow gas formations: exploration and production economics, (Tech. Paper) JPT Sept., 985
- northern: geothermal energy potential, (Forum) JPT Sept., 1005
- Appalachian basin: reserves: analysis of economics, (Tech. Paper) JPT July, 717
- Appraisal: See Evaluation
- Arctic: Canadian: economics of developing gas, (Tech. Paper) JPT Nov., 1199
- petroleum potential, (Tech. Paper) JPT Feb., 143
- ice floes: mechanical behavior of compaction, JPT Apr., 466
- oil spills: measures to combat, (Tech. Paper) JPT Mar., 269
- Arriola field: See Texas
- Atlantic coast: reserves: potential of oil and gas, (Tech. Paper) JPT Feb., 150
- Australia: performance tests: drilling-vessel anchors, JPT Mar., 337

### B

- Barium sulfate: scale-forming minerals: kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117
- Barriers: containment devices: oil-spill cleanup operations, (Tech. Paper) JPT Apr., 375
- oil spill: measure to combat in Arctic and Subarctic, (Tech. Paper) JPT Mar., 269
- Bayesian statistics: probability estimates: for petroleum drilling decisions, JPT June, 687
- Beaufort basin: Canada: petroleum potential of Arctic, (Tech. Paper) JPT Feb., 143
- Bidding: competitive: possible clash between instinct and science, (Tech. Paper) JPT May, 483
- Bits: micro-type: investigation of potential for improving drilling rate of oil-base muds in low-permeability rocks, (Tech. Paper) May, 507



selection: multiple regression approach to optimal drilling, SPEJ Aug., 371

Blocking agent: pilot application: Weyburn Unit, Saskatchewan, Canada, (Tech. Paper) JPT Sept., 973

Blowouts: gas: control by water injection through relief wells; theoretical analysis, (Tech. Paper) SPEJ Aug., 321

prevention: new completion system for surface-controlled subsurface safety valves, (Tech. Paper) JPT Mar., 331

Bonnie Glen D-3A pool: *See* Canada

Boreholes: stresses around: bilinear elastic rock, (Tech. Paper) SPEJ Apr., 145

Bottom-hole pressure: gas wells: calculation for deep, hot, sour completions, (Tech. Paper) JPT Jan., 85

numerical simulation for individual wells: field simulation model, (Tech. Paper) SPEJ Aug., 315

Boundary conditions: constant-pressure square: well-test analysis for a well, (Tech. Paper) SPEJ Apr., 107

formulation: at surface of porous medium, (Forum) SPEJ Oct., 434

temperatures: extended semianalytic method for increasing and decreasing, SPEJ Apr., 152

two-phase coning simulation: computer model, (Tech. Paper) SPEJ June, 221

Brookhaven field: *See* Mississippi

Buckling: laterally: axially constrained pipelines, (Forum) JPT Nov., 1283

Buildup curves: *See* Pressure buildup

## C

Calcium carbonate: scale-forming mineral: kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117

Calcium sulfate: scale-forming mineral: kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117

Calibration: cement bond logs, (Tech. Paper) JPT June, 607

California: carbon-oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044

compressibility of unconsolidated, arkosic oil sands, (Tech. Paper) SPEJ Apr., 132

Dominguez oil field: matching calculated with actual waterflood performance by estimating some reservoir properties, (Tech. Paper) JPT May, 501

East Coalinga field: conversion of steam injection to waterflood, (Tech. Paper) JPT Nov., 1227

performance tests: drilling-vessel anchors, JPT Mar., 337

Santa Barbara channel: drillstem-test assemblies for floating vessels, (Tech. Paper) JPT Aug., 851

re-establishing communication with subsea systems; acoustic-mechanical method, (Tech. Paper) JPT Oct., 1075

use of float modules to supplement mechanical tensioning of marine risers, (Forum) JPT Apr., 445

Whittier field: field trial of caustic flooding process, (Tech. Paper) JPT Dec., 1353

Canada: Arctic: economics of developing gas, (Tech. Paper) JPT Nov., 1199

petroleum potential, (Tech. Paper) JPT Feb., 143

Bonnie Glen D-3A pool: compositional simulation of a gas-cycling project, (Tech. Paper) JPT Nov., 1285

Nova Scotian shelf: sea-floor scour protection for a semi-submersible drilling rig, (Tech. Paper) JPT Apr., 381

Smiley-Dewar field: waterflood performance of shaly sand reservoir, (Tech. Paper) JPT Dec., 1375

Weyburn Unit: pilot application of a blocking agent, (Tech. Paper) JPT Sept., 973

Capacity: bearing: sea beds; effect of shallow-water waves, (Tech. Paper) SPEJ Aug., 330

Capillary pressure: drainage functions: influence of connate water, (Tech. Paper) SPEJ Oct., 437

measurement: in imbibition direction with centrifuge, (Tech. Paper) SPEJ June, 243

Carbon: oxygen logging: instrumentation, (Tech. Paper) SPEJ Oct., 463

laboratory and field evaluation, (Tech. Paper) JPT Oct., 1103

use and interpretation, (Tech. Paper) JPT Sept., 1044

Carbon dioxide: miscible displacement: use of numerical simulation to design a project for North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327

oil displacement mechanisms, JPT Dec., 1427; discussion, 1436

Carbonate reservoir: high gas saturation: successful waterflood, (Tech. Paper) JPT Dec., 1359

Carbonate rocks: *See also* Limestone

waterflooding: changing concepts; West Texas Denver Unit project, (Tech. Paper) JPT June, 595

Case histories: *See* Field case history

Casing: bond: cement bond log, (Tech. Paper) JPT June, 607

cathodic protection: effectiveness, (Tech. Paper) JPT July, 724

failures: Cedar Creek Anticline wells; application of model studies, (Tech. Paper) SPEJ Oct., 482

fault-damaged: planning workovers, South Pass Block 27 field, (Tech. Paper) JPT July, 739

perforated: sand particle transport, (Tech. Paper) JPT Jan., 80

Catalyst: external: epoxy for sand control, (Tech. Paper) JPT June, 589

Cathodic protection: well casing: effectiveness; an analysis, (Tech. Paper) JPT July, 724

Caustic flooding: field trial of process, (Tech. Paper) JPT Dec., 1353

heavy oils process, (Tech. Paper) JPT Dec., 1344

Cedar Creek Anticline field: *See* Montana and North Dakota

Cement: Class J: hydrothermal setting; for cementing ultra-deep, hot wells, (Tech. Paper) JPT Oct., 1087

Cement bond logging: basic principles, calibration and evaluation, (Tech. Paper) JPT June, 607

Cementing: cement bond logs, (Tech. Paper) JPT June, 607

spacer fluid: completion problems, (Forum) JPT Aug., 856

ultra-deep, hot wells: hydrothermal setting cement, (Tech. Paper) JPT Oct., 1087

Centrifuge: measurements; imbibition capillary pressure and electrical resistivity curves; new methods, (Tech. Paper) SPEJ June, 243

Channeling: blocking agent: pilot application in Weyburn Unit, Saskatchewan, Canada, (Tech. Paper) JPT Sept., 973

Chemicals: oil spill: for cleanup operations, (Tech. Paper) JPT Apr., 375

Clays: Norway: mineralogy and solutions to problems, (Tech. Paper) JPT Jan., 25

Coalescence: conditions: oilfield emulsions; studies on improvement, (Tech. Paper) JPT May, 563

Coals: permeability to gas and water, SPEJ Dec., 563

Pittsburgh and Pocahontas: air-water relative permeability studies, SPEJ, Dec., 556

synthetic fuels contribution, (Tech. Paper) JPT Feb., 139

Coefficients: inertial flow resistance: estimating in fluid flow through porous media, (Tech. Paper) SPEJ Oct., 445

COFCAW process: evaluation as tertiary recovery method: Sloss field, Nebraska, JPT June, 676

multipilot evaluation, (Tech. Paper) JPT June, 659

Sloss project: further evaluation of performance during and after air injection, JPT Dec., 1439

tertiary pilot test: Sloss field, Nebraska, JPT June, 667

Cohesion: plastic: factors influencing deterioration of sand consolidation treatments, (Tech. Paper) JPT Feb., 157

Combustion: fire-water flooding: laboratory investigation (Tech. Paper) SPEJ Dec., 537

Combustion method of oil recovery: *see* Thermal recovery of oil

Communications: re-establishing with subsea systems: an acoustic-mechanical method, (Tech. Paper) JPT Oct., 1075

Compaction: arctic ice: mechanical behavior, JPT Apr., 466

hydrostatic vs uniaxial: compressibility of unconsolidated, arkosic oil sands, (Tech. Paper) SPEJ Apr., 132

Completion: *See* Well completion

Completion practice: *See* Well completion

Composition: approximating effects during gas injection: Beta-type reservoir simulator, (Tech. Paper) SPEJ Oct., 471

crude oil: effect of oil displacement mechanisms by carbon dioxide, JPT Dec., 1427; discussion, 1436

simulation of gas cycling project: Bonnie Glen D-3A pool, Alberta, Canada, (Tech. Paper) JPT Nov., 1285

Compressibility: oil sands: unconsolidated, arkosic type, (Tech. Paper) SPEJ Apr., 132

Compressors: gas pipeline systems: some applications of transient flow simulation to promote understanding performance, SPEJ Apr., 179; discussion, 185

Computers: computation cost: two-dimensional radial treatment of wells within a three-dimensional reservoir

model, (Tech. Paper) SPEJ Apr., 127

demonstrates accuracy: extended semianalytic method for increasing and decreasing boundary temperatures, SPEJ Apr., 152

generated surface display: two-phase flow through vertical, inclined, or curved pipe, JPT Aug., 915

model: two-phase coning simulation, (Tech. Paper) SPEJ June, 221

wet-combustion drive; factorial design analysis, (Tech. Paper) SPEJ Feb., 25

program: effect of perforation damage on well productivity, JPT Nov., 1303

pressures generated upon refreezing of thawed permafrost around a wellbore, JPT Oct., 1159

two-phase vertical flow in oil wells; prediction of pressure drop, JPT Aug., 927; discussion, 937

unsteady-state natural-gas calculations in complex pipe systems, (Tech. Paper) SPEJ Feb., 35

resources required: for fast, highly accurate means of modeling transient flow in gas pipeline systems by variational methods, SPEJ Apr., 165; discussion, 175

solutions: fully implicit three-dimensional model in curvilinear coordinates, SPEJ Aug., 361

time and storage savings: performance matching with constraints, SPEJ Apr., 187

time reduction: direct methods in reservoir simulation SPEJ June, 295

Concentration: proppant: fractures generated by viscous gels, (Tech. Paper) SPEJ Dec., 531

Condensates: flowing in sandstones: parameters for computing pressure gradients and equilibrium saturation, (Tech. Paper) SPEJ June, 203

Conductivity: electrical: shaly sands; relation between hydrocarbon saturation and resistivity index, JPT Feb., 213

single infinite: vertical fracture; unsteady-state pressure distributions created by a well, SPEJ Aug., 347

thermal: unconsolidated oil sands, (Tech. Paper) SPEJ Oct., 513

Conduits: *See* Tubing

Coning: models: use of irregular grid in cylindrical coordinates, SPEJ Aug., 396; discussion, 405

simulation: two-phase system; computer model, (Tech. Paper) SPEJ June, 221

Connate water: *See* Interstitial water

Conroe field: *See* Texas

Construction: production platform: first jack-up in North Sea, (Forum) JPT Mar., 323

semi-implicit simulator: some practical considerations, (Tech. Paper) SPEJ June, 216

stresses: measuring in offshore pipeline, (Tech. Paper) JPT Mar., 261

Continental shelf: outer: update on lease management program, (Tech. Paper) JPT Apr., 388

Contracts: gas sales: scheduling field production for maximum profit, SPEJ June, 279

Controls: gas blowout: by water injection through relief wells; theoretical analysis, (Tech. Paper) SPEJ Aug., 321

Coordinates: curvilinear: used in fully implicit three-dimensional model, SPEJ Aug., 361

cylindrical: use of irregular grid, SPEJ Aug., 396; discussion, 405

Cores: shaly sands: relation between hydrocarbon saturation and resistivity index; temperature coefficient of electrical conductivity, JPT Feb., 213

short laboratory: mixing equations, SPEJ Feb., 91

unconsolidated, arkosic oil sands: compressibility measurement, (Tech. Paper) SPEJ Apr., 132

Correlations: core flow efficiency vs well flow efficiency: effect of perforating damage on well productivity, JPT Nov., 1303

pressure gradients: two-phase flow through vertical, inclined, or curved pipe, JPT Aug., 915

pressure losses: multiphase flow in vertical oilwell tubing; statistical evaluation of methods used to predict, JPT Aug., 903; discussion, 913

vertical oilwell tubing; evaluation of three new methods for predicting, (Tech. Paper) JPT Aug., 824

well-test analysis: wells producing from two commingled zones of unequal thickness, JPT Sept., 1035

Corrosion: cathodic protection: effectiveness on well casing, (Tech. Paper) JPT July, 724

Costs: cathodic protection: effectiveness on well casing, (Tech. Paper) JPT July, 724

crude oil: forecast of domestic prices, (Tech. Paper) JPT Feb., 135

drilling platforms: reduction with new offshore drilling concept, (Tech. Paper) JPT Apr., 395

Critical properties: pressure: lateral buckling of axially constrained pipelines, (Forum) JPT Nov., 1283

Crossett field: *See* Texas

Crossflow: excluded: wells producing from two commingled zones of unequal thickness; well-test analysis, JPT Sept., 1035

nonexistent: bounded multiple-layered reservoirs; some characteristics of pressure buildup behavior, JPT Oct., 1178

Crude oils: forecast of domestic prices, (Tech. Paper) JPT Feb., 135

high viscosity: squeeze with is effective gas shutoff technique, (Tech. Paper) JPT May, 551

Crystals: kinetics of growth: scale-forming minerals, (Tech. Paper) SPEJ Apr., 117

Curry field: *See* Texas

Cuttings: transport: in full-scale vertical annuli, (Tech. Paper) JPT Nov., 1295; discussion, 1302

Cyclic loading: Salem limestone; behavior in uniaxial cyclic compression, tension and compression-tension, (Tech. Paper) SPEJ Feb., 19

Cycling: *See* Gas cycling

## D

Damage: wellbore: injection-falloff tests evaluate natural gas storage reservoirs, (Tech. Paper) JPT May, 494

Darcy's law: fluid flow: theory of plasticity of porous media, SPEJ June, 263

transient imbibition kinetics: obeyed in microporous vycor, (Tech. Paper) SPEJ Apr., 139

Data: performance: waterflood of shaly sand; Smiley-Dewar field, Saskatchewan, (Tech. Paper) JPT Dec., 1375

pressure buildup: afterflow-distorted; estimating flow efficiency from, (Forum) JPT June, 696

production: field trial of caustic flooding process, (Tech. Paper) JPT Dec., 1353

short-time transient test: analysis by type-curve matching, JPT July, 793

Decision making: petroleum drilling: probability estimates, JPT June, 687

Deformation: plasticity of porous media: with fluid flow, SPEJ June, 263

resistance of ice: study of factors influencing mechanical properties of deep permafrost, JPT Oct., 1167

Density logging: use with dual-spaced neutron log to distinguish oil, water, and gas zones: Texas Gulf Coast, (Tech. Paper) JPT Sept., 990

Denver Unit project: West Texas: changing concepts in carbonate waterflooding, (Tech. Paper) JPT June, 595

Design: factorial: analysis of wet-combustion drive, (Tech. Paper) SPEJ Feb., 25

gravel pack: considerations, JPT Feb., 205

in-situ acid neutralization system: solves facility upset problems, (Forum) JPT Oct., 1153

offshore platforms: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395

selection of environmental criteria, (Tech. Paper) JPT Nov., 1206

semisubmersible work vessel: improved for North Sea operations, (Forum) JPT Mar., 326

Development: cement spacer fluid, (Forum) JPT Aug., 856

drilling: and completion fluids; new nondamaging and acid-degradable muds, (Tech. Paper) JPT Nov., 1221

probability estimates for petroleum decisions, JPT June, 687

Displacement mechanism: *See also* various types of displacement

alkaline waterflooding: oil recovery by, (Tech. Paper) JPT Dec., 1365

gravity segregation: two-phase process, SPEJ Dec., 619

linear: graphical method for calculating; with mass transfer and continuously changing mobilities, SPEJ Dec., 609

oil by carbon dioxide, JPT Dec., 1427; discussion, 1436

oil by polymer solution: analysis of factors influencing mobility and adsorption in flow through porous media, (Tech. Paper) SPEJ Aug., 337

oil in porous media: water-gas foams; physical properties, JPT Jan., 100  
 stability: water drives in water-wet connate-water-bearing reservoirs, SPEJ Feb., 63  
 Disposal: sand production, (Tech. Paper) JPT Apr., 450  
 Distribution: velocities: developed five-spot well patterns, (Forum) JPT May, 550  
 Dominguez oil field: *see* California  
 Drainage: boundary: constant-pressure square; well-test analysis for a well, (Tech. Paper) SPEJ Apr., 107  
 cycle: air-water relative permeability studies of Pittsburgh and Pocahontas coals, SPEJ Dec., 556  
 gas-oil: capillary-pressure functions and the influence of connate water, (Tech. Paper) SPEJ Oct., 437  
 Drawdown tests: disadvantages eliminated by two-rate flow test, variable-rate case: application to gas-lift and pumping wells, JPT Jan., 93  
 Drill bit: *See* Bits  
 Drilling: *See also* Offshore drilling  
 cyclic loading: behavior of Salem limestone, (Tech. Paper) SPEJ Feb., 19  
 decisions: probability estimates, JPT June, 687  
 hydraulics: slurry transport in full-scale vertical annuli, (Tech. Paper) JPT Nov., 1295; discussion, 1302  
 North Sea: scour around platform legs, (Tech. Paper) JPT Mar., 289  
 Norway: clay mineralogy and solutions to clay problems, (Tech. Paper) JPT Jan., 25  
 optimal: multiple regression approach, SPEJ Aug., 371  
 porous rock: plasticity under an axially symmetric punch; influence of fluid flow, SPEJ June, 271  
 well: improved method for calculating swab and surge pressures and circulating pressures, (Tech. Paper) SPEJ Oct., 451  
 Drilling fluids: annular performance: field method of evaluating, (Tech. Paper) JPT Feb., 167  
 nondamaging and acid-degradable: new muds, (Tech. Paper) JPT Nov., 1221  
 Norway: clay mineralogy and solutions to clay problems, (Tech. Paper) JPT Jan., 25  
 Drilling rates: oil-base muds in low-permeability rocks: microbit investigation of potential for improving, (Tech. Paper) JPT May, 507  
 Drilling rigs: semisubmersible: sea-floor scour protection on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381  
 Drillstem testing: assemblies for floating vessels, (Tech. Paper) JPT Aug., 851

## E

East Bay crude: *See* Louisiana  
 East Coalinga field: *See* California  
 Economics: analysis of timing repairs: casing failures in Cedar Creek Anticline wells, (Tech. Paper) SPEJ Oct., 482  
 Appalachian Basin: analysis of, (Tech. Paper) JPT July, 717  
 Canadian Arctic gas development, (Tech. Paper) JPT Nov., 1199  
 crude oil: forecast of domestic prices, (Tech. Paper) JPT Feb., 135  
 exploration and production: low-permeability shallow gas formation in Appalachia, (Tech. Paper) JPT Sept., 985  
 matrix acidizing: optimizing the profitability of treatments, (Tech. Paper) JPT Sept., 1055  
 prudent risk-taking, (Tech. Paper) JPT July, 711  
 synthetic fuels: energy contribution, (Tech. Paper) JPT Feb., 139  
 Elasticity: bilinear: stresses around boreholes in rock, (Tech. Paper) SPEJ Apr., 145  
 Electric logging: *see* Well logging  
 Electrical properties: conductivities: shaly sands; relation between hydrocarbon saturation and resistivity index, JPT Feb., 213  
 Elk Basin field: *See* Montana and Wyoming  
 Emulsions: facility upset problems: in-situ acid neutralization system solves, (Forum) JPT Oct., 1153  
 micro: physicochemical aspects of flooding, SPEJ Oct., 491  
 oilfield: studies on improvement of coalescence conditions, (Tech. Paper) JPT May, 563  
 polymer: fracturing, (Tech. Paper) JPT July, 731  
 Energy: balance: coupled to reservoir equations by extended semianalytic method, SPEJ Apr., 152

geothermal: potential in northern Appalachia, (Forum) JPT Sept., 1005  
 rock fracture: new techniques for measuring, (Tech. Paper) SPEJ June, 237  
 synthetic fuels contribution, (Tech. Paper) JPT Feb., 139  
 Environments: criteria: selection for offshore platform design, (Tech. Paper) JPT Nov., 1206  
 Epoxy resins: coated gravel packing: for controlling sand, (Tech. Paper) JPT Nov., 1215  
 coating: for platform riser repair and protection, (Forum) JPT Apr., 448  
 externally catalyzed: for sand control, (Tech. Paper) JPT June, 589  
 sand consolidation: factors influencing deterioration of plastic treatments, (Tech. Paper) JPT Feb., 157  
 Equilibrium: saturation: gas-condensate fluids flowing in sandstones; parameters for computing, (Tech. Paper) SPEJ June, 203  
 acoustic mechanical: method of re-establishing communication with subsea systems, (Tech. Paper) JPT Oct., 1075  
 Equipment: *See also* names of various types  
 anticor devices: use in North Sea, (Tech. Paper) JPT Mar., 289  
 containment and recovery devices: oil-spill cleanup operations, (Tech. Paper) JPT Apr., 375  
 drilling-vessel anchors: performance in mud and sand bottoms, JPT Mar., 337  
 float modules: use to supplement mechanical tensioning of marine risers, (Forum) JPT Apr., 445  
 floating vessels: drillstem-test assemblies, (Tech. Paper) JPT Aug., 851  
 gas-lift: continuous-flow production rates from deep, low-pressure wells, (Tech. Paper) JPT Jan., 13  
 gravel pack tool: improves pack placement, (Tech. Paper) JPT Jan., 19  
 leasing practices: analysis of Appalachian basin economics, (Tech. Paper) JPT July, 717  
 marine risers: analysis for deep water, JPT Apr., 455  
 platform repair and protection, (Forum) JPT Apr., 448  
 microscope: scanning electron; detecting microporosity to improve formation evaluation, (Tech. Paper) JPT Oct., 1080  
 mud system: clay mineralogy and solutions to clay problems in Norway, (Tech. Paper) JPT Jan., 25  
 offshore platforms: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395  
 oil spill: measures to combat in Arctic and Subarctic, (Tech. Paper) JPT Mar., 269  
 production platform: first jack-up in North Sea, (Forum) JPT Mar., 323  
 sand production: system for removing and disposing, (Tech. Paper) JPT Apr., 450  
 semisubmersible work vessel: improved for North Sea operations, (Forum) JPT Mar., 326  
 test cell: measuring imbibition capillary pressure and electrical resistivity curves by centrifuge, (Tech. Paper) SPEJ June, 243  
 valves: new completion system for surface-controlled subsurface safety types, (Tech. Paper) JPT Mar., 331  
 Error analysis: possible clash between instinct and science, (Tech. Paper) JPT May, 483  
 Evaluations: *see also* Field case histories, Field tests, Formation evaluation, Laboratory studies, and Performance predictions  
 COFCAW as tertiary recovery method: Sloss field, Nebraska, JPT June, 676  
 crude oil: forecast of domestic prices, (Tech. Paper) JPT Feb., 135  
 drilling and completion fluids: new nondamaging and acid-degradable muds, (Tech. Paper) JPT Nov., 1221  
 laboratory and field: carbon/oxygen well logging system, (Tech. Paper) JPT Oct., 1103  
 multipilot: COFCAW process, (Tech. Paper) JPT June, 659  
 petroleum potential: Arctic Canada, (Tech. Paper) JPT Feb., 143  
 potential field application: alkaline waterflooding for wet-tability alteration, (Tech. Paper) JPT Dec., 1335  
 preflashes: for sand consolidation plastics, (Tech. Paper) JPT Oct., 1095  
 pressure losses: three new methods for predicting in vertical oilwell tubing, (Tech. Paper) JPT Aug., 829  
 reserves: oil and gas domestically, (Tech. Paper) JPT Feb., 150



Sloss COFCAW project: performance during and after air injection, JPT Dec., 1439  
 statistical: methods used to predict pressure losses; multiphase flow in vertical oilwell tubing, JPT Aug., 903; discussion, 913  
 storage reservoirs: use of injection-falloff tests, (Tech. Paper) JPT May, 494  
 synthetic fuels: energy contribution, (Tech. Paper) JPT Feb., 139  
 Exploration: economics: low-permeability shallow gas formations in Appalachia, (Tech. Paper) JPT Sept., 985  
 probability estimates: for petroleum drilling decisions, JPT June, 687  
 prudent risk-taking, (Tech. Paper) JPT July, 711

## F

Fahud field: *See* Oman  
 Fatigue: Salem limestone: behavior in cyclic loading, (Tech. Paper) SPEJ Feb., 19  
 Faults: damaged casing: planning workovers in wells, South Pass Block 27 field, (Tech. Paper) JPT July, 739  
 Federal regulations: outer continental shelf: update on lease management program, (Tech. Paper) JPT Apr., 388  
 Field applications: *See* Field tests  
 Field case history: *See also* Field tests  
 Brookhaven field, Mississippi: flooding for tertiary recovery after successful gas injection for secondary recovery after successful gas injection for secondary recovery, (Tech. Paper) JPT July, 783  
 Curry Unit, Texas: waterflood in depleted carbonate reservoir with high gas saturation, (Tech. Paper) JPT Dec., 1359  
 Dominguez oil field, California: matching calculated with actual waterflood performance by estimating some reservoir properties, (Tech. Paper) JPT May, 501  
 East Coalinga field, California: conversion of steam injection to waterflood, (Tech. Paper) JPT Nov., 1227  
 hydrothermal setting cement: for cementing ultradeep, hot wells, (Tech. Paper) JPT Oct., 1087  
 Oklahoma and Texas fields: effectiveness of well casing cathodic protection, (Tech. Paper) JPT July, 724  
 Smiley-Dewar field, Saskatchewan, Canada: waterflood performance of a shaly sand reservoir, (Tech. Paper) JPT Dec., 1375  
 Texas Gulf Coast: using CNL-FDC logging to distinguish oil, water, and gas zones, (Tech. Paper) JPT Sept., 990  
 Field tests: *See also* Evaluation  
 acoustic-mechanical method: re-establishing communication with subsea systems, (Tech. Paper) JPT Oct., 1075  
 alkaline waterflooding: oil recovery by, (Tech. Paper) JPT Dec., 1365  
 carbon/oxygen log: instrumentation, (Tech. Paper) SPEJ Oct., 463  
 use and interpretation, (Tech. Paper) JPT Sept., 1044  
 carbon/oxygen well logging system: evaluation of, (Tech. Paper) JPT Oct., 1103  
 caustic flooding process, (Tech. Paper) JPT Dec., 1353  
 cement bond logs, (Tech. Paper) JPT June, 607  
 cement spacer fluid, (Forum) JPT Aug., 856  
 drilling fluids: evaluating annular performance, (Tech. Paper) JPT Feb., 167  
 drilling-vessel anchors: performance in mud and sand bottoms, JPT Mar., 337  
 estimating maximum sand-free production rates: from friable sands for different well completion geometries, JPT Oct., 1156  
 externally catalyzed epoxy: for sand control, (Tech. Paper) JPT June, 589  
 gas-lift concept: continuous-flow production rates from deep, low-pressure wells, (Tech. Paper) JPT Jan., 13  
 gravel pack: design considerations, JPT Feb., 205  
 tool: improves pack placement, (Tech. Paper) JPT Jan., 19  
 high-viscosity crude squeeze: effective gas shutoff technique, (Tech. Paper) JPT May, 551  
 injection-falloff tests: use to evaluate natural gas storage reservoirs, (Tech. Paper) JPT May, 494  
 in-situ acid neutralization system: solves facility upset problems, (Forum) JPT Oct., 1153

intermittent gas lift, SPEJ Oct., 502  
 matrix acidizing: optimizing the profitability, (Tech. Paper) JPT Sept., 1055  
 Mississippi and Utah: improved method for calculating swab and surge pressures and circulating pressures in a drilling well, (Tech. Paper) SPEJ Oct., 451  
 offshore pipeline: measuring construction stresses, (Tech. Paper) JPT Mar., 261  
 oilfield emulsions: studies on improvement of coalescence conditions, (Tech. Paper) JPT May, 563  
 polymer emulsion fracturing, (Tech. Paper) JPT July, 731  
 pressures generated upon refreezing of thawed permafrost around a wellbore, JPT Oct., 1159  
 sand control: epoxy-coated, high-solids-content gravel slurry, (Tech. Paper) JPT Nov., 1215  
 two-rate flow test: variable-rate case; application to gas-lift and pumping wells, JPT Jan., 93  
 unconventional: evaluation of performance during and after air injection; Sloss COFCAW project, JPT Dec., 1439  
 vertical two-phase steam-water flow: geothermal wells, (Tech. Paper) JPT Aug., 833  
 wellbore insulation: silicate foam, (Tech. Paper) JPT June, 583  
 Fields: *See* specific names  
 Financing: *See* Economics and Investments  
 Finite-difference method: boundary condition: two-phase coning simulation; computer model, (Tech. Paper) SPEJ June, 221  
 irregular grid in cylindrical coordinates: use of, SPEJ Aug., 396; discussion, 405  
 pressure and flow estimations: effect of perforation damage on well productivity, JPT Nov., 1303  
 reservoir simulation: direct solutions, SPEJ June, 295  
 Flotation equipment: float modules: use to supplement mechanical tensioning of marine risers, (Forum) JPT Apr., 445  
 Floating vessels: drilling: analysis of marine risers for deep water, JPT Apr., 455  
 drillstem-test assemblies, (Tech. Paper) JPT Aug., 851  
 Flow capacity: efficiency: estimating from afterflow-distorted pressure buildup data, (Forum) JPT June, 696  
 Flow properties: deep permafrost: study of factors influencing, JPT Oct., 1167  
 Flow tests: acid fracturing: effect of surface kinetics, SPEJ Aug., 385  
 two-rate: variable-rate case; application to gas-lift and pumping wells, JPT Jan., 93  
 Fluid flow: *See also* specific applications such as Gas injection, Miscible displacement, and Waterflooding  
 air-water relative permeability studies: Pittsburgh and Pocahontas coals, SPEJ Dec., 556  
 analysis of influence on plasticity: porous rock under an axially symmetric punch, SPEJ June, 271  
 drainage capillary-pressure functions: influence of connate water, (Tech. Paper) SPEJ Oct., 437  
 estimating efficiency from afterflow-distorted pressure buildup data, (Forum) JPT June, 696  
 fluid propagation, interaction and mobility: micellar flooding, SPEJ Dec., 633; discussion, 643  
 gas and water: permeability of coal to, SPEJ Dec., 563  
 gas condensates in sandstones: parameters for computing pressure gradients and equilibrium saturation, (Tech. Paper) SPEJ June, 203  
 linear displacements: graphical method for calculating with mass transfer and continuously changing mobilities, SPEJ Dec., 609  
 multiphase: evaluation of three methods for predicting pressure losses in vertical oilwell tubing, (Tech. Paper) JPT Aug., 829  
 vertical oilwell tubing: statistical evaluation of methods used to predict pressure losses, JPT Aug., 903; discussion, 913  
 oilfield emulsions: studies on improvement of coalescence conditions, (Tech. Paper) JPT May, 563  
 plastic deformation of porous media, SPEJ June, 263  
 polymer solution: through porous media; analysis of factors influencing mobility and adsorption, (Tech. Paper) SPEJ Aug., 337  
 porous media: estimating the coefficient of inertial resistance, (Tech. Paper) SPEJ Oct., 445  
 formulation of boundary conditions at the surface, (Forum) SPEJ Oct., 434  
 oil displacement by foams in relation to their physical properties, JPT Jan., 100

- reservoir simulators: determining interblock transmissibility, (Forum) JPT Jan., 77
- spherical regime problems: pressure buildup equations, (Tech. Paper) SPEJ Dec., 545
- spontaneous imbibition: porous vycor, (Tech. Paper) SPEJ Apr., 139
- steamflooding: three-dimensional simulation, SPEJ Dec., 573
- transient: fast, highly accurate means of modeling in gas pipeline systems; variational methods, SPEJ Apr., 165; discussion, 175
- some simulation applications to promote understanding performance of gas pipeline systems, SPEJ Apr., 179; discussion, 185
- two-phase: through vertical, inclined, or curved pipe, JPT Aug., 915
- two-phase: vertical; prediction of pressure drop in oil wells, JPT Aug., 927; discussion, 937
- steam-water flow in geothermal wells, (Tech. Paper) JPT Aug., 833
- Fluid injection: *See* Gas injection, Miscible displacement, Thermal recovery of oil, and Waterflooding
- Fluid loss: polymer emulsion fracturing, (Tech. Paper) JPT July, 731
- Fluid properties: *See* specific properties
- Fluid saturations: numerical simulation for individual wells: field simulation model, (Tech. Paper) SPEJ Aug., 315
- Foams: oil displacement: relation to physical properties in porous media, JPT Jan., 100
- silicate wellbore insulation, (Tech. Paper) JPT June, 583
- Formation damage: distinguishing from limited perforating penetration: test-well shooting may give a clue, (Tech. Paper) JPT Sept., 979
- from drilling and completion fluids: new nondamaging and acid-degradable muds, (Tech. Paper) JPT Nov., 1221
- from perforating: effect on well productivity, JPT Nov., 1303
- paraffin precipitation: during fracture stimulation, (Tech. Paper) JPT Sept., 997
- Formation evaluation: *See also* Pressure buildup and Well logging
- CNL-FDC logging: using to distinguish oil, water, and gas zones; Texas Gulf Coast, (Tech. Paper) JPT Sept., 990
- drillstem test: assemblies for floating vessels, (Tech. Paper) JPT Aug., 851
- estimating maximum sand-free production rates: from friable sands for different well completion geometries, JPT Oct., 1156
- microporosity: deflection and influence, (Tech. Paper) JPT Oct., 1080
- naturally fractured reservoirs: analysis from sonic and resistivity logs, (Tech. Paper) JPT Nov., 1233
- residual oil: determining with nuclear magnetism log, JPT Feb., 226
- vertical permeability: pulse tests and other early transient pressure analyses for in-situ estimation, SPEJ Feb., 75
- well logging: carbon/oxygen log instrumentation, (Tech. Paper) SPEJ Oct., 463
- Formation fractures: analysis of naturally occurring: from sonic and resistivity logs, (Tech. Papers) JPT Nov., 1233
- generated by viscous gels: proppant concentration in and final shape, (Tech. Paper) SPEJ Dec., 531
- horizontal: unsteady-state pressure distributions created by a well with a single fracture, SPEJ Aug., 413
- rock energy: new techniques for measuring, (Tech. Paper) SPEJ June, 237
- rock failure mechanics: due to water impingement, (Tech. Paper) SPEJ Feb., 10
- vertical: with single infinite conductivity; unsteady-state pressure distributions created by a well, SPEJ Aug., 437
- Formation fracturing: hydraulic: polymer emulsion, (Tech. Paper) JPT July, 731
- paraffin precipitation: during stimulation, (Tech. Paper) JPT Sept., 997
- surface kinetics: effect on fracture acidizing, SPEJ Aug., 385
- Fractured reservoirs or fracturing: *See* Formation fractures and Formation fracturing
- Fractures: *See also* Formation fractures
- Friction: loss: polymer emulsion fracturing, (Tech. Paper) JPT July, 731

## G

- Galerkin method: fast, highly accurate means of modeling transient flow: gas pipeline systems, SPEJ Apr., 165; discussion, 175
- Gas condensate: *See* Condensate
- Gas cycling: compositional simulation: Bonnie Glen D-3A pool, Alberta, Canada, (Tech. Paper) JPT Nov., 1285
- Gas detection: carbon/oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044
- Gas drive: gravity segregation: two-phase displacement processes, SPEJ Dec., 619
- Gas fields: Canadian Arctic: economics of developing, (Tech. Paper) JPT Nov., 1199
- North Sea: scour in U.K. sector, (Tech. Paper) JPT Mar., 289
- Gas injection: Beta-type reservoir simulator for approximating compositional effects, (Tech. Paper) SPEJ Oct., 471
- flooding for tertiary recovery after successful secondary recovery: Brookhaven field, Mississippi, (Tech. Paper) JPT July, 783
- pressure falloff analysis: reservoirs with fluid banks, JPT July, 809; discussion, 818
- Gas lift: deep, low-pressure wells: continuous-flow production rates, (Tech. Paper) JPT Jan., 13
- flow test: two-rate, variable-rate case, JPT Jan., 93
- intermittent field test and analytical study, SPEJ Oct., 502
- Gas reservoirs: Appalachia: exploration and production economics of low-permeability shallow formations, (Tech. Paper) JPT Sept., 985
- field production scheduling: for maximum profit, SPEJ June, 279
- performance matching with constraints, SPEJ Apr., 187
- Gas saturation: high: successful waterflood in depleted carbonate reservoir, (Tech. Paper) JPT Dec., 1359
- profile: during foam flow through porous media, JPT Jan., 100
- Gas storage: optimization of well locations: determining in a reservoir using mixed-integer programming, SPEJ Feb., 44
- Gas wells: average reservoir pressure: determining from pressure buildup tests, SPEJ Feb., 55
- sour: calculation of bottom-hole pressures in deep, hot completions, (Tech. Paper) JPT Jan., 85
- Gases: *See also* Natural gas
- blowout control: by water injection through relief wells; theoretical analysis, (Tech. Paper) SPEJ Aug., 321
- permeability of coal to, SPEJ Dec., 563
- pipeline systems: fast, highly accurate means of modeling transient flow by variational methods, SPEJ Apr., 165; discussion, 175
- some applications of transient flow simulation to promote understanding performance, SPEJ Apr., 179; discussion, 185
- Gas-oil ratio: well modeling: calculation from pseudo-relative permeability curves, (Forum) SPEJ Feb., 7
- Gels: viscous: proppant concentration in and final shape of fractures generated by, (Tech. Paper) SPEJ Dec., 531
- Geology: Canada: petroleum potential of Arctic, (Tech. Paper) JPT Feb., 143
- Geothermal energy: potential: northern Appalachia, (Forum) JPT Sept., 1005
- Geothermal gradient: *See* Temperature and Thermal properties
- Geothermal steam: two-phase flow: vertical steam-water flow in wells, (Tech. Paper) JPT Aug., 833
- Graphical analysis: for calculating linear displacements: with mass transfer and continuously changing mobilities, SPEJ Dec., 609
- Gravel packing: design: considerations, JPT Feb., 205
- epoxy-coated, high-solids-content slurry: for controlling sand, (Tech. Paper) JPT Nov., 1215
- tool for improving pack placement, (Tech. Paper) JPT Jan., 19
- Gravity drainage: two-phase displacement processes, SPEJ Dec., 619
- Grayburg dolomite reservoir: *See* Texas
- Gulf Coast: *See also* Louisiana and Texas

carbon/oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044  
 crude oil: forecast of prices, (Tech. Paper) JPT Feb., 135  
 sand control: use of externally catalyzed epoxy, (Tech. Paper) JPT June, 589  
 Gulf of Mexico: *See also* Louisiana  
 outer continental shelf: update on lease management program, (Tech. Paper) JPT Apr., 388  
 reserves: potential of oil and gas, (Tech. Paper) JPT Feb., 150

## H

Heat conduction: *See* Heat transfer  
 Heat flow: geothermal energy: potential in northern Appalachia, (Forum) JPT Sept., 1005  
 reservoir to overburden: extended semi-analytic method for increasing and decreasing boundary temperatures, SPEJ Apr., 152  
 Heat transfer: calculations: cooling of formation using cold fracturing fluid, (Tech. Paper) JPT Sept., 997  
 geothermal wells: vertical two-phase steam-water flow, (Tech. Paper) JPT Aug., 833  
 studies of pressures generated upon refreezing of thawed permafrost around a wellbore, JPT Oct., 1159  
 High Island area: *See* Texas  
 History: matching: analysis of short-time transient test data, JPT July, 793  
 application of inverse simulation to a complex multi-reservoir system, JPT July, 801  
 new algorithm for automatic control, SPEJ Dec., 593  
 of calculated with actual waterflood performance by estimating some reservoir properties, (Tech. Paper) JPT May, 501  
 reservoir performance, SPEJ Apr., 187  
 Hurricanes: occurrences on Texas Gulf Coast: probabilistic models, (Tech. Paper) JPT Mar., 279  
 Hydrocarbon recovery: *See* Oil recovery  
 Hydrates: formation: preventing with silicate foam wellbore insulation, (Tech. Paper) JPT June, 583  
 Hysteresis: capillary pressure vs saturation relationship, (Tech. Paper) SPEJ June, 243

## I

Ice: arctic: mechanical behavior of compacted floes, JPT Apr., 466  
 resistance to deformation: study of factors influencing mechanical properties, JPT Oct., 1167  
 Imbibition: capillary pressure: new methods for measuring by centrifuge, (Tech. Paper) SPEJ June, 243  
 cycle: air-water relative permeability studies of Pittsburgh and Pocahontas coals, SPEJ Dec., 556  
 In-situ combustion: *See* Thermal recovery of oil  
 fluid in microporous vycor, (Tech. Paper) SPEJ Apr., 139  
 Inertial effects: coefficient of inertial resistance: estimating in fluid flow through porous media, (Tech. Paper) SPEJ Oct., 445  
 Inhibition: scale-forming minerals: kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117  
 Injection: *See also* Gas injection, Miscible displacement, Thermal recovery of oil, and Waterflooding  
 air: evaluation of performance during and after injection; Sloss COFCAW project, JPT Dec., 1439  
 carbonate waterflooding: West Texas Denver Unit, (Tech. Paper) JPT June, 595  
 emulsion: caustic waterflooding process for heavy oils, (Tech. Paper) JPT Dec., 1344  
 falloff tests: use to evaluate natural gas storage reservoirs, (Tech. Paper) JPT May, 494  
 fluid: well in a constant-pressure square; well-test analysis, (Tech. Paper) SPEJ Apr., 107  
 polymer: improvements in flooding: programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33  
 profile: corrections; review of workover techniques, Willard Unit, (Tech. Paper) JPT May, 557  
 rates: through gas-lift valves; field test and analytical study, SPEJ Oct., 502  
 steam: conversion to waterflood, East Coalinga field, (Tech. Paper) JPT Nov., 1227  
 viscous gels: proppant concentration in and final shape of fractures generated, (Tech. Paper) SPEJ Dec., 545  
 water: through relief wells to control gas blowout; theoretical analysis, (Tech. Paper) SPEJ Aug., 321

Injection wells: steam: silicate foam wellbore insulation, (Tech. Paper) JPT June, 583  
 Instrumentation: carbon/oxygen logging, (Tech. Paper) SPEJ Oct., 463  
 Insulation: tubing: silicate foam, (Tech. Paper) JPT June, 583  
 Interfacial tension: mercury-air: drainage capillary-pressure functions; influence of connate water, (Tech. Paper) SPEJ Oct., 437  
 Intermittent flow: gas lift: field test and analytical study, SPEJ Oct., 502  
 Interpretation: carbon/oxygen log, (Tech. Paper) JPT Sept., 1044  
 distinguishing gas/oil and water/oil contacts: using CNL-FDC logging in Texas Gulf Coast, (Tech. Paper) JPT Sept., 990  
 Interstitial water: influence on drainage capillary-pressure functions, (Tech. Paper) SPEJ Oct., 437  
 Investments: capital: analysis of Appalachian basin economics, (Tech. Paper) JPT July, 717  
 scheduling: gas field production for maximum profit, SPEJ June, 279  
 Iteration: reduction: performance matching with constraints, SPEJ Apr., 187

## K

Khursaniyah field: *See* Saudia Arabia  
 Kinetics: of crystallization: scale-forming minerals, (Tech. Paper) SPEJ Apr., 117  
 reaction: low-temperature-oxidation; effects on in-situ combustion process, (Tech. Paper) SPEJ June, 253  
 surface: effect in fracture acidizing, SPEJ Aug., 385

## L

Laboratory studies: acid fracturing: effect of surface kinetics, SPEJ Aug., 385  
 air-water relative permeability: Pittsburgh and Pocahontas coals, SPEJ Dec., 556  
 alkaline waterflooding: for wettability alteration, (Tech. Paper) JPT Dec., 1335  
 oil recovery by, (Tech. Paper) JPT Dec., 1365  
 carbon/oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044  
 carbon/oxygen well logging system: evaluation of, (Tech. Paper) JPT Oct., 1103  
 caustic waterflooding: process for heavy oils, (Tech. Paper) JPT Dec., 1344  
 compressibility: unconsolidated, arkosic oil sands, (Tech. Paper) SPEJ Apr., 132  
 cycling loading: behavior of Salem limestone, (Tech. Paper) SPEJ Feb., 19  
 deep permafrost: study of factors influencing mechanical properties, JPT Oct., 1167  
 displacement stability: water drives in water-wet connate-water-bearing reservoirs, SPEJ Feb., 63  
 drainage capillary-pressure functions: influence of connate water, (Tech. Paper) SPEJ Oct., 437  
 drill-cutting transport: full-scale vertical annuli, (Tech. Paper) JPT Nov., 1295; discussion, 1302  
 drilling and completion fluids: new nondamaging and acid-degradable muds, (Tech. Paper) JPT Nov., 1221  
 electrical conductivities: shaly sands; relation between hydrocarbon saturation and resistivity index, JPT Feb., 213  
 externally catalyzed epoxy: for sand control, (Tech. Paper) JPT June, 589  
 fire-water flooding, (Tech. Paper) SPEJ Dec., 537  
 fully implicit three-dimensional model: in curvilinear coordinates, SPEJ Aug., 361  
 gas-condensate fluids: flowing in sandstones; parameters for computing pressure gradient and equilibrium saturation, (Tech. Paper) SPEJ June, 203  
 gravel pack; design considerations, JPT Feb., 205  
 placement; new tool improves, (Tech. Paper) JPT Jan., 19  
 hydrothermal setting cement: for cementing ultradeep, hot wells, (Tech. Paper) JPT Oct., 1087  
 imbibition capillary pressure and electrical resistivity curves; new methods for measuring by centrifuge, (Tech. Paper) SPEJ June, 243  
 in-situ combustion process: effects of low-temperature-oxidation reaction kinetics, (Tech. Paper) SPEJ June, 253



- kinetics of crystallization: scale-forming minerals, (Tech. Paper) SPEJ Apr., 117
- lateral buckling: axially constrained pipelines, (Forum) JPT Nov., 1283
- mechanisms of oil displacement by carbon dioxide, JPT Dec., 1427; discussion, 1436
- micellar flooding: fluid propagation, interaction and mobility, SPEJ Dec., 633; discussion, 643
- microbit: investigation of potential for improving drilling rate of oil-base muds in low-permeability rocks, (Tech. Paper) JPT May, 507
- microemulsion flooding: physicochemical aspects, SPEJ Oct., 491
- microgel: some reactions in polyacrylamide solutions, (Forum) JPT May, 545; discussion, 547
- microporosity detection: to improve formation evaluation, (Tech. Paper) JPT Oct., 1080
- oilfield emulsions: improvement of coalescence conditions, (Tech. Paper) JPT May, 563
- paraffin precipitation: during fracture stimulation, (Tech. Paper) JPT Sept., 997
- permeability of coal: to gas and water, SPEJ Dec., 563
- plasticity of porous rock: under an axially symmetric punch; analysis of influence of fluid flow, SPEJ June, 271
- preflushes: evaluation of sand consolidation plastics, (Tech. Paper) JPT Oct., 1095
- pressures generated upon refreezing of thawed permafrost around a wellbore, JPT Oct., 1159
- rock failure mechanics: due to water jet impingement, (Tech. Paper) SPEJ Feb., 10
- rock fracture energy: new techniques for measuring, (Tech. Paper) SPEJ June, 237
- sand consolidation: fractors influencing deterioration of plastic treatments, (Tech. Paper) JPT Feb., 157
- sand particle transport: perforated casing, (Tech. Paper) JPT Jan., 80
- sea-floor scour protection: semisubmersible drilling rig on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381
- short laboratory cores: mixing equations, SPEJ Feb., 91
- spontaneous imbibition: fluids in porous vycor, (Tech. Paper) SPEJ Apr., 139
- stability and bearing capacity of sea beds: effect of shallow-water waves, (Tech. Paper) SPEJ Aug., 330
- steamflooding: three-dimensional simulation, SPEJ Dec., 573
- stresses around boreholes: bilinear elastic rock, (Tech. Paper) SPEJ Apr., 145
- two-dimensional radial treatment of wells: within three-dimensional reservoir simulator, (Tech. Paper) SPEJ Apr., 127
- unconsolidated oil sands: thermal behavior, (Tech. Paper) SPEJ Oct., 513
- velocities: developed five-spot well patterns, (Forum) JPT May, 550
- wellbore insulation: silicate foam, (Tech. Paper) JPT June, 583
- Leasing practices: outer continental shelf: update on management program, (Tech. Paper) JPT Apr., 388
- well equipment: analysis of Appalachian basin economics, (Tech. Paper) JPT July, 717
- Limestones: *See also* Carbonate rocks
- Salem: behavior in cyclic loading, (Tech. Paper) SPEJ Feb., 19
- Limited entry: flow tests: spherical flow regime problems, (Tech. Paper) SPEJ Dec., 545
- wells: unsteady-state pressure distributions, SPEJ Aug., 413
- Liquefied natural gas (LNG): synthetic fuels contribution, (Tech. Paper) JPT Feb., 139
- Log interpretation: *See* Interpretation
- Logging: *See* Well logging
- Louisiana: carbon/oxygen well logging system: evaluation of, (Tech. Paper) JPT Oct., 1103
- East Bay crude: in-situ acid neutralization system solves facility upset problems, (Forum) JPT Oct., 1153
- evaluation of preflushes: for sand consolidation plastics, (Tech. Paper) JPT Oct., 1095
- Gulf Coast: system for removing and disposing of produced sand, (Tech. Paper) JPT Apr., 450
- Gulf of Mexico: new completion system for surface-controlled subsurface safety valves, (Tech. Paper) JPT Mar., 331
- offshore platform design: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395
- hydrothermal setting cement: for cementing ultradeep, hot wells, (Tech. Paper) JPT Oct., 1087
- offshore: controlling sand with epoxy-coated, high-solids-content gravel slurry, (Tech. Paper) JPT Nov., 1215
- South Pass Block 27 field: planning workovers in wells with fault-damaged casing, (Tech. Paper) JPT July, 739

## M

- Mackenzie Delta: Canadian Arctic gas: economics of developing, (Tech. Paper) JPT Nov., 1199
- Management: lease program: update, outer continental shelf, (Tech. Paper) JPT Apr., 388
- Mass transfer: flow regime methods: two-phase vertical flow in oil wells; prediction of pressure drop, JPT Aug., 927; discussion, 937
- graphical method for calculating linear displacements SPEJ Dec., 609
- Mathematical modeling: *See* Models: mathematical
- Material balance: maintaining: two-dimensional radial treatment of wells within a three-dimensional reservoir model, (Tech. Paper) SPEJ Apr., 127
- mixing equation: short laboratory cores, SPEJ Feb., 91
- Matrix: banding: direct methods in reservoir simulation, SPEJ June, 295
- Measurement: construction stresses: offshore pipeline, (Tech. Paper) JPT Mar., 261
- imbibition capillary pressure and electrical resistivity curves: new centrifuge methods, (Tech. Paper) SPEJ June, 243
- residual oil: determining with nuclear magnetism log, JPT Feb., 226
- rock fracture energy: new techniques, (Tech. Paper) SPEJ June, 237
- Mechanical properties: Arctic ice: behavior of compacted floes, JPT Apr., 466
- deep permafrost: study of factors influencing, JPT Oct., 1167
- permafrost: studies of pressures generated upon refreezing around wellbore, JPT Oct., 1159
- Method of characteristics: unsteady-state natural-gas calculations: complex pipe systems, (Tech. Paper) SPEJ Feb., 35
- Micellar solutions: fluid propagation, interaction, and mobility of floods, SPEJ Dec., 633; discussion, 643
- Microgel: reactions in polyacrylamide solutions, (Forum) JPT May, 545; discussion, 547
- Microscope: scanning electron: improving formation evaluation and detecting microporosity, (Tech. Paper) JPT Oct., 1080
- Middle East: crude oil: forecast of prices domestically, (Tech. Paper) JPT Feb., 135
- Minerals: scale-forming: kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117
- Miscible displacement: carbon dioxide: use of numerical simulation to design project for North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327
- oil by carbon dioxide: mechanisms involved, JPT Dec., 1427; discussion, 1436
- short laboratory cores: mixing equations, SPEJ Feb., 91
- Mississippi: Brookhaven field: flooding for tertiary recovery after successful gas injection for secondary recovery, (Tech. Paper) JPT July, 783
- drilling wells: improved method for calculating swab and surge pressures and circulating pressures, (Tech. Paper) SPEJ Oct., 451
- salt basin: distinguishing formation damage from limited perforating penetration; test-well shooting may give a clue, (Tech. Paper) JPT Sept., 979
- Mixing: equations: short laboratory cores, SPEJ Feb., 91
- intensity: parameter in studies on improvement of coalescence conditions of oilfield emulsions, (Tech. Paper) JPT May, 563
- Mobility: and adsorption: analysis of influence on flow of polymer solution through porous media, (Tech. Paper) SPEJ Aug., 337
- continuously changing: graphical method for calculating linear displacements, SPEJ Dec., 609
- control: reactions of microgel in polyacrylamide solutions, (Forum) JPT May, 545; discussion, 547
- equation: gas-condensate fluids flowing in sandstones, (Tech. Paper) SPEJ June, 203

fluid: micellar flooding, SPEJ Dec., 633; discussion, 643

Models: aquifer: application of inverse simulation to a complex multireservoir system, JPT July, 801

Blake-Kozeny: analysis of factors influencing mobility and adsorption in flow of polymer solution through porous media, (Tech. Paper) SPEJ Aug., 337

compositional: simulation of gas-cycling project; Bonnie Glen D-3A pool, Alberta, Canada, (Tech. Paper) JPT Nov., 1285

computational: polymer flooding improvements; programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33

computer: two-phase coning simulation, (Tech. Paper) SPEJ June, 221

coning; three-phase: use of irregular grid in cylindrical coordinates, SPEJ Aug., 396; discussion, 405

displacement: study of stability of water drives in water-wet connate-water-bearing reservoirs, SPEJ Feb., 63

drilling: multiple regression approach to optimization, SPEJ Aug., 371

field simulation: numerical simulation of individual wells, (Tech. Paper) SPEJ Aug., 315

finite element: effect of perforation damage on well productivity, JPT Nov., 1303

hydraulic tank: semisubmersible drilling rig; sea-floor scour protection on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381

idealized: analysis of naturally fractured reservoirs from sonic and resistivity logs (Tech. Paper) JPT Nov., 1233

laboratory: scaled; new gravel pack tool improves pack placement, (Tech. Paper) JPT Jan., 19

mathematical: analysis of marine risers for deep water, JPT Apr., 455

Beta-type; for approximating compositional effects during gas injection, (Tech. Paper) SPEJ Oct., 471

determining optimum location of reservoir wells; mixed-integer programming, SPEJ Feb., 44

effect of surface kinetics in fracture acidizing, SPEJ Aug., 385

gas field production scheduling; for maximum profit, SPEJ June, 279

matching calculated with actual waterflood performance by estimating some reservoir properties, (Tech. Paper) JPT May, 501

optimizing the profitability of matrix acidizing treatments, (Tech. Paper) JPT Sept., 1055

proppant concentration in and final shape of fractures generated by viscous gels, (Tech. Paper) SPEJ Dec., 531

three-dimensional simulation of steamflooding, SPEJ Dec., 573

unsteady-state pressure distributions; created by a well with a single horizontal fracture, partial penetration, or restricted entry, SPEJ Aug., 413

use to design a carbon dioxide miscible displacement project; North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327

wet-combustion drive; factorial design analysis, (Tech. Paper) SPEJ Feb., 25

numerical: new direct solution methods, SPEJ June, 295

pressure drop and heat transfer; vertical two-phase steam-water flow, geothermal wells, (Tech. Paper) JPT Aug., 833

physical: electrical conductivities in shaly sands; relation between hydrocarbon saturation and resistivity index, JPT Feb., 213

gravel pack design considerations, JPT Feb., 205

studies of pressures generated upon refreezing of thawed permafrost around a wellbore, JPT Oct., 1159

pipeline network: unsteady-state natural-gas calculations, (Tech. Paper) SPEJ Feb., 35

Poisson and Markov: for Texas Gulf Coast hurricane occurrences, (Tech. Paper) JPT Mar., 279

Poisson pure death: for events occurring at random points in time; casing failures in Cedar Creek Anticline wells, (Tech. Paper) SPEJ Oct., 482

power: annular performance of drilling fluids, (Tech. Paper) JPT Feb., 167

power-law: improved method for calculating swab and surge pressures and circulating pressures in a drilling well, (Tech. Paper) SPEJ Oct., 451

pressure drop: two-phase flow through vertical, inclined, or curved pipe, JPT Aug., 915

pseudo-relative permeability for wells, (Forum) SPEJ

Feb., 7

used to study externally catalyzed epoxy for sand control, (Tech. Paper) JPT June, 589

radial: two-dimensional treatment of wells within a three-dimensional reservoir, (Tech. Paper) SPEJ Apr., 127

three-dimensional: fully implicit; in curvilinear coordinates, SPEJ Aug., 361

transient flow: gas pipeline systems; variational methods, SPEJ Apr., 165; discussion, 175

some applications to promote understanding the performance of gas pipeline systems, SPEJ Apr., 179; discussion, 185

waterflood proceeding fillup: pressure falloff analysis in reservoirs with fluid banks, JPT July, 809; discussion, 818

well: some practical considerations in construction of semi-implicit simulator, (Tech. Paper) SPEJ June, 216

Montana: Cedar Creek Anticline field: model for events occurring at random points in time; casing failures, (Tech. Paper) SPEJ Oct., 482

Elk Basin field: high-viscosity crude squeeze is effective gas shutoff technique, (Tech. Paper) JPT May, 551

Moorings: drilling-vessel anchors: performance tests in mud and sand bottoms, JPT Mar., 337

## N

Natural gas: *See also* Gases

potential: Arctic Canada, (Tech. Paper) JPT Feb., 143

reserves: potential domestically, (Tech. Paper) JPT Feb., 150

shutoff: high-viscosity crude squeeze is effective technique, (Tech. Paper) JPT May, 551

storage reservoirs: use of injection-falloff tests to evaluate, (Tech. Paper) JPT May, 494

unsteady-state calculations: complex pipe systems, (Tech. Paper) SPEJ Feb., 35

Nebraska: Sloss field: COFCAW project; evaluation of performance during and after air injection, JPT Dec., 1439

evaluation of COFCAW as tertiary recovery method, JPT June, 676

tertiary COFCAW pilot test, JPT June, 667

Neoprene: coating: for platform riser repair and protection, (Forum) JPT Apr., 448

Neutron logging: dual spaced: use with formation density log to distinguish oil, water, and gas zones; Texas Gulf Coast, (Tech. Paper) JPT Sept., 990

New Mexico: carbon/oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044

New Zealand: geothermal wells; vertical two-phase steam-water flow, (Tech. Paper) JPT Aug., 833

North Dakota: Cedar Creek Anticline field: model for events occurring at random points in time; casing failures, (Tech. Paper) SPEJ Oct., 482

North Sea: first jack-up production platform, (Forum) JPT Mar., 323

Norway: clay mineralogy and solutions to clay problems, (Tech. Paper) JPT Jan., 25

operations: improved semisubmersible work vessel, (Forum) JPT Mar., 326

scour in U.K. sector, (Tech. Paper) JPT Mar., 289

Norway: clay mineralogy and solutions to clay problems, (Tech. Paper) JPT Jan., 25

Nova Scotia: *See* Canada

Nuclear logging: carbon/oxygen log instrumentation: (Tech. Paper) SPEJ Oct., 463

Nuclear magnetism logging: residual oil determination, JPT Feb., 226

Numerical solutions: Arctic ice floes: mechanical behavior of compaction, JPT Aug., 466

average reservoir pressure: determining from pressure buildup tests, SPEJ Feb., 55

Beta-type reservoir simulation: for approximating compositional effects during gas injection, (Tech. Paper) SPEJ Oct., 471

bottom-hole pressures: deep, hot, sour gas wells, (Tech. Paper) JPT Jan., 85

carbon dioxide miscible displacement: use to design project for North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327

coefficient of inertial resistance: estimating in fluid flow porous media, (Tech. Paper) SPEJ Oct., 445

complex multireservoir system: application of inverse simulation, JPT July, 801

drilling fluids: evaluating annular performance, (Tech. Paper) JPT Feb., 167

energy balance solution in overburden: semi-analytic method for increasing and decreasing boundary temperatures, SPEJ Apr., 152

error analysis: possible clash between instinct and science, (Tech. Paper) JPT May, 483

estimating maximum sand-free production rates: from friable sands for different well completion geometries, JPT Oct., 1156

events occurring at random points in time: casing failures in Cedar Creek Anticline wells, (Tech. Paper) SPEJ Oct., 482

factorial design analysis: wet-combustion drive, (Tech. Paper) JPT Feb., 25

finite-difference approximation: use of irregular grid in cylindrical coordinates, SPEJ Aug., 396; discussion, 405

fully implicit three-dimensional model: in curvilinear coordinates, SPEJ Aug., 361

gas-blowout control: by water injection through relief wells; theoretical analysis, (Tech. Paper) SPEJ Aug., 321

gravity segregation: two-phase displacement processes, SPEJ Dec., 619

history-matching problem: new algorithm for automatic control, SPEJ Dec., 593

hurricane occurrences: probabilistic models for Texas Gulf Coast, (Tech. Paper) JPT Mar., 279

linear displacements: graphical method for calculating with mass transfer and continuously changing mobilities, SPEJ Dec., 609

marine risers analysis: for deep water, JPT Apr., 455

mixing equations: short laboratory cores, SPEJ Feb., 91

optimal drilling and abnormal pressure detection: multiple regression approach, SPEJ Aug., 371

optimizing profitability: matrix acidizing treatments, (Tech. Paper) JPT Sept., 1055

performance matching with constraints, SPEJ Apr., 187

plasticity of porous rock: under an axially symmetric punch; analysis of influence of fluid flow, SPEJ June, 271

polymer flooding: programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33

polymer solution flow through porous media; analysis of factors influencing mobility and adsorption, (Tech. Paper) SPEJ Aug., 337

pressure losses: predicting in vertical oilwell tubing; evaluation of three methods, (Tech. Paper) JPT Aug., 829

proppant concentration in fractures: and final shape of fractures generated by viscous gels, (Tech. Paper) SPEJ Dec., 531

reservoir simulation: direct methods, SPEJ June, 295

residual oil: determining with nuclear magnetism log, JPT Feb., 226

rock failure mechanics: due to water jet impingement, (Tech. Paper) SPEJ Feb., 10

scheduling gas field production: for maximum profit, SPEJ June, 279

semi-implicit simulator: some practical considerations in construction, (Tech. Paper) SPEJ June, 217

simulation of individual wells: field simulation model, (Tech. Paper) SPEJ Aug., 315

sonic and resistivity logs: analysis of naturally fractured reservoirs, (Tech. Paper) JPT Nov., 1233

spherical flow regime problems: pressure buildup equations, (Tech. Paper) SPEJ Dec., 545

steamflooding and steam stimulation: three-dimensional simulation, SPEJ Dec., 573

stresses around boreholes: bilinear elastic rock, (Tech. Paper) SPEJ Apr., 145

surface kinetics: effect on acid fracturing, SPEJ Aug., 385

swab and surge pressures and circulating pressures: drilling well, (Tech. Paper) SPEJ Oct., 451

theory of plasticity of porous media with fluid flow, SPEJ June, 263

two-dimensional radial treatment of wells: within a three-dimensional reservoir model, (Tech. Paper) SPEJ Apr., 127

two-phase coning simulation: computer model, (Tech. Paper) SPEJ June, 221

unsteady-state pressure distributions: created by a well

with a single horizontal fracture, partial penetration, or restricted entry, Aug., 413

created by well with single infinite-conductivity vertical fracture, SPEJ Aug., 347

vertical permeability: pulse tests and other early transient pressure analysis for in-situ estimation, SPEJ Feb., 75

vertical two-phase steam-water flow: geothermal wells, (Tech. Paper) JPT Aug., 833

well modeling: pseudo-relative permeability, (Forum) SPEJ Feb., 7

well-test analysis: well in a constant-pressure square, (Tech. Paper) SPEJ Apr., 107

wells producing from the commingled zones of unequal thickness, JPT Sept., 1035

## O

Offshore: Arctic ice floes: mechanical behavior of compaction, JPT Apr., 466

drilling-vessel anchors: performance in mud and sand bottoms, JPT Mar., 337

pipeline: measuring construction stresses, (Tech. Paper) JPT Mar., 261

platforms: selection of environmental criteria for design, (Tech. Paper) JPT Nov., 1206

shallow-water waves: effect on stability and bearing capacity of sea beds, (Tech. Paper) SPEJ Aug., 330

Texas Gulf Coast: probabilistic models for hurricane occurrences, (Tech. Paper) JPT Mar., 279

United States: oil and gas (Tech. Paper) JPT Feb., 150

well control: new completion system for surface-controlled subsurface safety valves, (Tech. Paper) JPT Mar., 331

Offshore drilling: float modules: use to supplement mechanical tensioning of marine risers, (Forum) JPT Apr., 445

floating vessels: drillstem-test assemblies, (Tech. Paper) JPT Aug., 851

marine risers: analysis for deep water, JPT Apr., 455

platform: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395

sea-floor scour: protection for a semisubmersible drilling rig on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381

Offshore operations: North Sea: first jack-up production platform, (Forum) JPT Mar., 323

improved semisubmersible work vessel, (Forum) JPT Mar., 326

scour in U.K. sector, (Tech. Paper) JPT Mar., 289

oil-spill cleanup: containment and recovery devices, (Tech. Paper) JPT Apr., 375

outer continental shelf: update on lease management program, (Tech. Paper) JPT Apr., 388

re-establishing communication with subsea systems: an acoustic-mechanical method, (Tech. Paper) JPT Oct., 1075

sand productions: systems for removing and disposing, (Tech. Paper) JPT Apr., 450

Oil: *See also* Petroleum

heavy: caustic waterflooding process, (Tech. Paper) JPT Dec., 1344

reserves: potential domestically, (Tech. Paper) JPT Feb., 150

thermal behavior: unconsolidated sands, (Tech. Paper) SPEJ Oct., 513

Oil-base muds; low-permeability rocks; microbit investigation of potential for improving drilling rate, (Tech. Paper) JPT May, 507

Oil fields: *See* name of specific fields

Oil recovery: alkaline waterflooding, (Tech. Paper) JPT Dec., 1365

for wettability alteration; evaluating a potential field application, (Tech. Paper) JPT Dec., 1335

carbon dioxide miscible displacement: use of numerical simulation to design project for North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327

caustic waterflooding: process for heavy oils, (Tech. Paper) JPT Dec., 1344

devices: oil-spill cleanup operations, (Tech. Paper) JPT Apr., 375

displacement by foams: relation to their physical properties in porous media, JPT Jan, 100

mechanisms of oil displacement by carbon dioxide, JPT Dec., 1427; discussion, 1436



polymer flooding: improvement with programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33

Weyburn Unit, Saskatchewan, Canada: pilot application of a blocking agent, (Tech. Paper) JPT Sept., 973

Oil shales: synthetic fuels contribution, (Tech. Paper) JPT Feb., 139

Oil spills: Arctic and Subarctic: measures to combat, (Tech. Paper) JPT Mar., 269

cleanup operations: containment and recovery devices, (Tech. Paper) JPT Apr., 375

Oil wells: deep, low-pressure: continuous-flow production rates; new gas-lift concept, (Tech. Paper) JPT Jan., 13

tubing: multiphase vertical flow; statistical evaluation of methods used to predict pressure losses, JPT Aug., 903; discussion, 913

vertical: evaluation of three new methods for predicting pressure losses, (Tech. Paper) JPT Aug., 829

two-phase vertical flow: prediction of pressure drop, JPT Aug., 927; discussion, 937

ultradeep and hot: hydrothermal setting cement for cementing, (Tech. Paper) JPT Oct., 1087

Oklahoma: evaluation of preflushes: for sand consolidation plastics, (Tech. Paper) JPT Oct., 1095

South Boyd field: effectiveness of well casing cathodic protection, (Tech. Paper) JPT July, 724

Oman: Fahud field: pulse tests and other early transient pressure analyses for in-situ estimation of vertical permeability, SPEJ Feb., 75

Optimization: gas field production: for maximum profit, SPEJ June, 279

oil-water separation: studies on improvement of coalescence conditions of oilfield emulsions, (Tech. Paper) JPT May, 563

well location: determining in a reservoir using mixed-integer programming, SPEJ Feb., 44

Optimizing techniques: control theory: new algorithm for automatic history matching, SPEJ Dec., 593

drilling: multiple regression approach, SPEJ Aug., 371

matrix acidizing: profitability of treatments, (Tech. Paper) JPT Sept., 1055

Overburden: effect on Pittsburgh and Pocahontas coals, SPEJ Dec., 556

pressures: effect on permeability of coal to gas and water, SPEJ Dec., 563

Oxidation: low-temperature: reaction kinetics; effects on in-situ combustion process, (Tech. Paper) SPEJ June, 253

Oxygen: carbon log: instrumentation, (Tech. Paper) SPEJ Oct., 463

laboratory and field evaluation, (Tech. Paper) JPT Oct., 1103

use and interpretation, (Tech. Paper) JPT Sept., 1044

## P

Paraffin: deposition: preventing with silicate foam wellbore insulation, (Tech. Paper) JPT June, 583

precipitation: during fracture stimulation, (Tech. Paper) JPT Sept., 997

Particle: sand: transport in perforated casing, (Tech. Paper) JPT Jan., 80

Pendant-drop technique: mercury-air interfacial tension; drainage capillary-pressure functions; influence of connate water, (Tech. Paper) SPEJ Oct., 437

Penetration: limited perforating or formation damage: test-well shooting may give a clue, (Tech. Paper) JPT Sept., 979

partial: unsteady-state pressure distributions created in a well, SPEJ Aug., 413

Perforating: damage: effect on well productivity, JPT Nov., 1303

test-well shooting may aid in evaluating effectiveness, (Tech. Paper) JPT Sept., 979

Perforations: casing: sand particle transport, (Tech. Paper) JPT Jan., 80

Performance predictions: drilling fluids: field method of evaluating in annular, (Tech. Paper) JPT Feb., 167

gas pipeline systems: some applications of transient flow simulation to promote understanding, SPEJ Apr., 179; discussion, 185

matching with constraints, SPEJ Apr., 187

waterflood: depleted carbonate reservoir with high gas saturation, (Tech. Paper) JPT Dec., 1359

matching calculated with actual by estimating some reservoir properties, (Tech. Paper) JPT May, 501

Permafrost: around wellbore: studies of pressures generated upon refreezing of thawed part, JPT Oct., 1159

deep: study of factors influencing mechanical properties, JPT Oct., 1167

Permeability: block: determining interblock transmissibility in reservoir simulators, (Forum) JPT Jan., 77

coal: to gas and water, SPEJ Dec., 563

estimation: analysis of short-time transient test data by type-curve matching, JPT July, 793

low: in rocks; microbit investigation of potential for improving drilling rate of oil-base muds, (Tech. Paper) JPT May, 507

shallow gas formations in Appalachia; exploration and production economics, (Tech. Paper) JPT Sept., 985

new algorithm for automatic history matching, SPEJ Dec., 593

relative: air-water; studies of Pittsburgh and Pocahontas coals, SPEJ Dec., 556

pseudo: for well modeling, (Forum) SPEJ Feb., 7

vertical: in-situ estimation; pulse tests and other early transient pressure analyses, SPEJ Feb., 75

Permeability ratio: estimating flow efficiency: from afterflow-distorted pressure buildup data, (Forum) JPT June, 696

Petroleum: *See also* Oil

potential: Arctic Canada, (Tech. Paper) JPT Feb., 143

Petroleum economics: *See* Economics

Petroleum engineering: calculations: possible clash between instinct and science, (Tech. Paper) JPT May, 483

fluid-flow prediction: formulation of boundary conditions at surface of porous medium, (Forum) SPEJ Oct., 434

pH: polyacrylamide solutions: some reactions of microgel, (Forum) JPT May, 545; discussion, 547

Physical properties: foams: oil displacement in porous media, JPT Jan., 100

Physicochemical: aspects: microemulsion flooding, SPEJ Oct., 491

Pilot study: blocking agent: Weyburn Unit, Saskatchewan, Canada, (Tech. Paper) JPT Sept., 973

COFCAW process: evaluation, (Tech. Paper) JPT June, 659

tertiary test: Sloss field, Nebraska, JPT June, 667

waterflooding: for tertiary recovery after successful gas injection for secondary recovery: Brookhaven field, Mississippi, (Tech. Paper) JPT July, 783

Pipelines: axially constrained: lateral buckling in, (Forum) JPT Nov., 1283

complex systems: unsteady-state natural-gas calculations, (Tech. Paper) SPEJ Feb., 35

gas: fast, highly accurate means of modeling transient flow by variational methods, SPEJ Apr., 165; discussion, 175

some applications of transient flow simulation to promote understanding performance of systems, SPEJ Apr., 179; discussion, 185

offshore: measuring construction stresses, (Tech. Paper) JPT Mar., 261

Pipes: marine risers: analysis for deep water, JPT Apr., 455

platform repair and protection, (Forum) JPT Apr., 448

use of float modules to supplement mechanical tensioning, (Forum) JPT Apr., 445

vertical, inclined or curved: two-phase flow through, JPT Aug., 915

Pittsburgh coal: air-water relative permeability studies, SPEJ Dec., 556

Plasticity: porous media: theory with fluid flow, SPEJ June, 263

under an axially symmetric punch; analysis of influence of fluid flow, SPEJ June, 271

Plastics: externally catalyzed epoxy: for sand control, (Tech. Paper) JPT June, 589

sand consolidation: evaluation of preflushes, (Tech. Paper) JPT Oct., 1095

factors influencing deterioration of treatments, (Tech. Paper) JPT Feb., 157

Platforms: North Sea: scour in U.K. sector, (Tech. Paper) JPT Mar., 289

offshore: design: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395

- selection of environmental criteria for design, (Tech. Paper) JPT Nov., 1206
- production: first jack-up in North Sea, (Forum) JPT Mar., 323
- riser repair and protection (Forum) JPT Apr., 448
- Pocahontas coal: air-water relative permeability studies, SPEJ Dec., 556
- Pollution: oil spill: cleanup operations: containment and recovery devices, (Tech. Paper) JPT Apr., 375
- measures to combat in Arctic and Subarctic, (Tech. Paper) JPT Mar., 269
- outer continental shelf: update on lease management program, (Tech. Paper) JPT Apr., 388
- Polyacrylamide: solutions: some reactions of microgel, (Forum) JPT May, 545; discussion, 547
- Polymers: emulsion fracturing, (Tech. Paper) JPT July, 731
- flooding: analysis of factor influencing mobility and adsorption in flow through porous media, (Tech. Paper) SPEJ Aug., 337
- improvements with programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33
- Polypropylene: coating: for platform riser repair and protection, (Forum) JPT Apr., 448
- Porosity: micro: detecting to improve formation evaluation, (Tech. Paper) JPT Oct., 1080
- new algorithm for automatic history matching, SPEJ Dec., 593
- Porous media: *See also* Reservoir rocks
- flow of polymer solution through: analysis of factors influencing mobility and adsorption, (Tech. Paper) SPEJ Aug., 337
- fluid flow: single phase: estimating the coefficient of inertial resistance, (Tech. Paper) SPEJ Oct., 445
- formulation of boundary conditions at the surface, (Forum) SPEJ Oct., 434
- low-temperature-oxidation reaction kinetics: effects on in-situ combustion process, (Tech. Paper) SPEJ June, 253
- oil displacement by foams: relation to physical properties in rocks, JPT Jan., 100
- plastic deformation: with fluid flow, SPEJ June, 263
- plasticity: under an axially symmetric punch; analysis of influence of fluid flow, SPEJ June, 271
- vycon: spontaneous imbibition of fluids, (Tech. Paper) SPEJ Apr., 139
- Present worth: matrix acidizing: optimizing the profitability of treatments, (Tech. Paper) JPT Sept., 1055
- Pressure behavior: *See also* Reservoir pressure
- abnormal pressure detection: multiple regression approach, SPEJ Aug., 371
- annular loss: field method of evaluating performance of drilling fluids, (Tech. Paper) JPT Feb., 167
- around a wellbore: studies of pressures generated upon refreezing of thawed permafrost, JPT Oct., 1159
- bottom-hole: calculation for deep, hot, sour gas wells, (Tech. Paper) JPT Jan., 85
- constant-pressure square: west-test analysis for a well, (Tech. Paper) SPEJ Apr., 107
- early transient pressure analyses: in-situ estimation of vertical permeability, SPEJ Feb., 75
- lateral buckling: axially constrained pipelines, (Forum) JPT Nov., 1283
- losses: statistical evaluation of methods used to predict; multiphase flow in vertical oilwell tubing, JPT Aug., 903; discussion, 913
- low: new gas-lift concept; continuous-flow production rates from deep wells, (Tech. Paper) JPT Jan., 13
- pore loading: mechanics of rock failure due to water jet impingement, (Tech. Paper) SPEJ Feb., 10
- predicting losses: evaluation of three new methods for vertical oilwell tubing, (Tech. Paper) JPT Aug., 829
- swab and surge pressures: improved method for calculating, (Tech. Paper) SPEJ Oct., 451
- Pressure buildup: analysis: short-time transient test data by type-curve matching, JPT July, 793
- disadvantages eliminated by two-rate flow test, variable-rate case: application to gas-lift and pumping wells, JPT Jan., 93
- equations: for spherical flow regime problems, (Tech. Paper) SPEJ Dec., 545
- estimating flow efficiency: from afterflow-distorted data, (Forum) JPT June, 696
- testing: some characteristics in bounded multiple-layered reservoirs without crossflow, JPT Oct., 1178
- tests: determining average reservoir pressure, SPEJ Feb., 55
- well-test analysis: wells producing from two commingled zones of unequal thickness, JPT Sept., 1035
- Pressure distribution: model: two-phase flow through vertical, inclined, or curved pipe, JPT Aug., 915
- unsteady-state: created by a well with a single horizontal fracture, partial penetration, or restricted entry, SPEJ Aug., 413
- created by a well with a single infinite-conductivity vertical fracture, SPEJ Aug., 347
- Pressure falloff: analysis: reservoirs with fluid banks, JPT July, 809; discussion, 818
- Pressure gradients: gas-condensate fluids flowing in sandstones: parameters for computing, (Tech. Paper) SPEJ June, 203
- prediction: two-phase vertical flow in oil wells, JPT Aug., 927; discussion, 937
- Pressure maintenance: *See also* Gas injection, Miscible displacement, and Waterflooding
- Pressure transients: *See also* Transients
- performance matching with constraints, SPEJ Apr., 187
- Probability: estimates: for petroleum drilling decisions, JPT June, 687
- models: for Texas Gulf Coast hurricane occurrences, (Tech. Paper) JPT Mar., 279
- prudent risk-taking, (Tech. Paper) JPT July, 711
- waiting-time: model for events occurring at random points in time; casing failures in Cedar Creek Anticline wells, (Tech. Paper) SPEJ Oct., 482
- Production: economics: low-permeability shallow gas formations in Appalachia, (Tech. Paper) JPT Sept., 985
- from two commingled zones of unequal thickness: well-test analysis, JPT Sept., 1035
- platform: first jack-up in North Sea, (Forum) JPT Mar., 323
- rates: deep, low-pressure wells; new continuous-flow gas-lift concept, (Tech. Paper) JPT Jan., 13
- sand: system for removing and disposing, (Tech. Paper) JPT Apr., 450
- sand-free: estimating maximum rates from friable sands for different well completion geometries, JPT Oct., 1156
- scheduling: gas field; for maximum profit, SPEJ June, 279
- Production operations: *See the specific operation*
- Profitability: matrix acidizing treatments: optimizing, (Tech. Paper) JPT Sept., 1055
- Programming: mixed-integer: determining optimum location of wells in a reservoir, SPEJ Feb., 44
- Properties: reservoir: estimating to match calculated with actual waterflood performance, (Tech. Paper) JPT May, 501
- Propping agent: concentration: fractures generated by viscous gels, (Tech. Paper) SPEJ Dec., 531
- Prudhoe Bay: *See* Alaska
- Pulse testing: vertical permeability: analyses for in-situ estimation, SPEJ Feb., 75
- Pumping wells: flow test: two-rate, variable-rate case, JPT Jan., 93

## R

- Recovery methods: *See also* Oil recovery, Secondary recovery, Tertiary recovery, and Thermal recovery of oil
- Regression analysis: multiple approach: to optimal drilling and abnormal pressure detection, SPEJ Aug., 371
- simplified model: application of inverse simulation to a complex multireservoir system, JPT July, 801
- Relative permeability: *See* Permeability: relative
- Reliability: analysis: offshore platform design; selection of environmental criteria, (Tech. Paper) JPT Nov., 1206
- Reserves: Appalachian basin: analysis of economics, (Tech. Paper) JPT July, 717
- gas: economics of developing Canadian Arctic, (Tech. Paper) JPT Nov., 1199
- potential: domestic oil and gas, (Tech. Paper) JPT Feb., 150
- Reservoir analysis: *See also* Performance predictions
- formulation of boundary conditions at the surface of a porous medium, (Forum) SPEJ Oct., 434
- waterflood performance: matching calculated with actual by estimating some reservoir properties, (Tech. Paper) JPT May, 501
- Reservoir engineering: *See* Reservoir mechanics

Reservoir pressure: *See also* Pressure behavior average: determining from pressure buildup tests, SPEJ Feb., 55

Reservoir rocks: *See also* Cores and Porous media  
 bilinear elastic: stresses around boreholes, (Tech. Paper) SPEJ Apr., 145  
 low permeability: microbit investigation of potential for improving drilling rate of oil-base muds, (Tech. Paper) JPT May, 507  
 unconsolidated oil sands: thermal behavior, (Tech. Paper) SPEJ Oct., 513

Reservoir simulation: *See also* Models  
 carbon dioxide miscible displacement: design of project for North Cross (Devonian) Unit, (Tech. Paper) JPT Dec., 1327  
 complex multireservoir system: application of inverse method, JPT July, 801  
 compositional model: gas-cycling project; Bonnie Glen D-3A pool, Alberta, Canada, (Tech. Paper) JPT Nov., 1285  
 construction of semi-implicit simulator: some practical considerations, (Tech. Paper) SPEJ June, 216  
 direct solution methods, SPEJ June, 295  
 gravity segregation: two-phase displacement processes, SPEJ Dec., 619  
 irregular grid in cylindrical coordinates: use of, SPEJ Aug., 396; discussion, 405  
 numerical simulation: individual wells in a field simulation model, (Tech. Paper) SPEJ Aug., 315  
 pressure falloff analysis: reservoirs with fluid banks, JPT July, 809 discussion, 818  
 steamflooding: three-dimensional, SPEJ Dec., 573  
 two-dimensional radial well models: simultaneous solution with three-dimensional reservoir simulator, (Tech. Paper) SPEJ Apr., 127  
 well modeling: pseudo-relative permeability, (Forum) SPEJ Feb., 7  
 wells in a reservoir: method for determining optimum location using mixed-integer programming, SPEJ Feb., 44  
 wet-combustion drive: factorial design analysis, (Tech. Paper) SPEJ Feb., 25

Reservoir simulators: interblock transmissibility: determining, (Forum) JPT Jan., 77

Reservoirs: *See also* type, such as Gravity drainage and Water drive, and also specific names  
 heterogeneous system: some characteristics of pressure buildup behavior in bounded multiple-layered reservoirs without crossflow, JPT Oct., 1178  
 natural gas storage: use of injection-falloff tests to evaluate, (Tech. Paper) JPT May, 494  
 simulator: Beta-type; for approximating compositional effects during gas injection, (Tech. Paper) SPEJ Oct., 471  
 water-wet: connate-water-bearing; displacement stability of water drives, SPEJ Feb., 63

Residual oil: determination: nuclear magnetism log, JPT Feb., 226

Resins: sand consolidation: factors influencing deterioration of plastic treatments, (Tech. Paper) JPT Feb., 157

Resistance: inertial: estimating the coefficient in fluid flow through porous media, (Tech. Paper) SPEJ Oct., 445

Resistivity: electrical curves: new centrifuge methods for measuring, (Tech. Paper) SPEJ June, 243  
 index: relation to hydrocarbon saturation; electrical conductivities in shaly sands, JPT Feb., 213  
 log: analysis of naturally fractured reservoirs combined with sonic log, (Tech. Paper) JPT Nov., 1233

Rheology: properties: drill-cutting transport; full-scale vertical annuli, (Tech. Paper) JPT Nov., 1295; discussion, 1302

Risk analysis: capital investment: Appalachian basin economics, (Tech. Paper) JPT July, 717  
 error calculation: possible clash between instinct and science, (Tech. Paper) JPT May, 483  
 probability estimates: for petroleum drilling decisions, JPT June, 687  
 prudent risk-taking, (Tech. Paper) JPT July, 711

Rock mechanics: fracture: due to water jet impingement, (Tech. Paper) SPEJ Feb., 10  
 plasticity: porous rock under an axially symmetric punch; analysis of influence of fluid flow, SPEJ June, 271  
 Salem limestone: behavior in cyclic loading, (Tech. Paper) SPEJ Feb., 19

stresses around boreholes: bilinear elastic rock, (Tech. Paper) SPEJ Apr., 145

Rock properties: fracture energy: new techniques for measuring, (Tech. Paper) SPEJ June, 237  
 low permeability: microbit investigation of potential for improving drilling rate of oil-base muds, (Tech. Paper) JPT May, 507  
 unconsolidated oil sands: thermal behavior, (Tech. Paper) SPEJ Oct., 513

Rocks: *See* Reservoir rocks

Rocky Mountain area: COFCAW process: multipilot process, (Tech. Paper) JPT June, 659

## S

Safety: offshore platform design: selection of environmental design: selection of environmental criteria, (Tech. Paper) JPT Nov., 1206

Salt Creek field: *See* Wyoming

Sand control: consolidation with externally catalyzed epoxy, (Tech. Paper) JPT June, 589  
 gravel pack design, JPT Feb., 205  
 gravel packing: epoxy-coated, high-solids-content gravel slurry, (Tech. Paper) JPT Nov., 1215  
 particle transport: perforated casing, (Tech. Paper) JPT Jan., 80  
 preflushes: evaluation for sand consolidation plastics, (Tech. Paper) JPT Oct., 1095  
 production rates: estimating maximum rates from friable sands for different well completion geometries, JPT Oct., 1156

Sands: consolidation: factors influencing deterioration of plastic treatments, (Tech. Paper) JPT Feb., 157  
 oil: compressibility of unconsolidated, arkosic type, (Tech. Paper) SPEJ Apr., 132  
 produced: systems for removing and disposing, (Tech. Paper) JPT Apr., 450  
 shaly: electrical conductivities; relation between hydrocarbon saturation and resistivity index, JPT Feb., 213  
 waterflood performance of reservoir; Smiley-Dewar field, Saskatchewan, (Tech. Paper) JPT Dec., 1375  
 unconsolidated, oil: thermal behavior, (Tech. Paper) SPEJ Oct., 513

Sandstones: cores: parameters for computing pressure gradients and the equilibrium saturations of gas-condensate fluids, (Tech. Paper) SPEJ June, 203

Santa Barbara Channel: *See also* California  
 drillstem-test assemblies: for floating vessels, (Tech. Paper) JPT Aug., 851

Saturation: equilibrium: gas-condensate fluids flowing in sandstones; parameters for computing, (Tech. Paper) SPEJ June, 203  
 hydrocarbon: relation to resistivity index, electrical conductivities in shaly sands, JPT Feb., 213

Saudi Arabia: Khursaniyah field: application of inverse simulation to a complex multireservoir system, JPT July, 801

Scale: formation kinetics of crystallization, (Tech. Paper) SPEJ Apr., 117

Science: possible clash with instinct: the ratio, (Tech. Paper) JPT May, 483

Scour: North Sea: U.K. sector, (Tech. Paper) JPT Mar., 289  
 sea-floor: protection for semisubmersible drilling rig on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381

Sea beds: stability and bearing capacity: effect of shallow-water waves, (Tech. Paper) SPEJ Aug., 330

Secondary recovery: *See also* Gas injection, Miscible displacement, Thermal recovery of oil, and Waterflooding  
 caustic flooding: field trial of process, (Tech. Paper) JPT Dec., 1353  
 fire-water flooding: laboratory investigation, (Tech. Paper) SPEJ Dec., 537  
 gas injection: flooding for tertiary recovery after successful operation; Brookhaven field, Mississippi, (Tech. Paper) JPT July, 783  
 gravity segregation: two-phase displacement process, SPEJ Dec., 619  
 in-situ combustion process: effects of low-temperature-oxidation reaction kinetics, (Tech. Paper) SPEJ June, 253  
 steam injection: conversion to waterflood; East Coalinga field, California, (Tech. Paper) JPT Nov., 1227  
 waterflooding: depleted carbonate reservoir with high-gas saturation, (Tech. Paper) JPT Dec., 1359



Semisubmersibles: work vessel: improved for North Sea operations, (Forum) JPT Mar., 326

Shale oils: *See* Oil shales

Simulation: Beta-type reservoir: for approximating compositional effects during gas injection, (Tech. Paper) SPEJ Oct., 471

construction of semi-implicit simulator: some practical considerations, (Tech. Paper) SPEJ June, 216

in-situ combustion process: effects of low-temperature-oxidation reaction kinetics, (Tech. Paper) SPEJ June, 253

multiphase: fully implicit three-dimensional model in curvilinear coordinates, SPEJ Aug., 361

transient flow: natural-gas pipelines; unsteady-state calculations, (Tech. Paper) SPEJ Feb., 35

two-phase coning: computer model, (Tech. Paper) SPEJ June, 221

Skin effect: estimation: analysis of short-time transient test data by type-curve matching, JPT July, 793

spherical flow regime problems: pressure buildup equations, (Tech. Paper) SPEJ Dec., 545

Sloss field: *See* Nebraska

Slug process: *See also* Miscible displacement

polymer flooding improvements: programmed slug and polymer-conserving agent, (Tech. Paper) JPT Jan., 33

Slurries: gravel: epoxy-coated, high-solids-content type for controlling sand, (Tech. Paper) JPT Nov., 1215

Smiley-Dewar field: *See* Canada

Soils: flow behavior: study of factors influencing; deep permafrost, JPT Oct., 1167

Sonic method: analysis of naturally fractured reservoirs: combined with resistivity log, (Tech. Paper) JPT Nov., 1233

Sour gas: wells: calculation of bottom-hole pressures for deep, hot completions, (Tech. Paper) JPT Jan., 85

South Boyd field: *See* Oklahoma

South Pass Block 27 field: *See* Louisiana

Spacer fluid: cement: completion problems, (Forum) JPT Aug., 856

Stability: displacement: water drives in water-wet connate-water-bearing reservoirs, SPEJ Feb., 63

sea beds: effect of shallow-water waves, (Tech. Paper) SPEJ Aug., 330

Statistics: error analysis: possible clash between instinct and science, (Tech. Paper) JPT May, 483

evaluation of methods used to predict pressure losses: multiphase flow in vertical oilwell tubing, JPT Aug., 903; discussion, 913

model for events occurring at random points in time: casing failures in Cedar Creek Anticline wells, (Tech. Paper) SPEJ Oct., 482

pressure losses: vertical oilwell tubing; evaluation of three new methods for predicting, (Tech. Paper) JPT Aug., 829

Steamflooding: *See* Thermal recovery of oil

Steam injection: *See* Injection: Steam and Thermal recovery of oil

Stimulation: *See* Well stimulation or the specific process

Storage: reservoirs: natural gas; use of injection-falloff tests to evaluate, (Tech. Paper) JPT May, 494

wellbore effects: analysis of short-time transient test data by type-curve matching, JPT July, 793

pressure falloff analysis in reservoirs with fluid banks, JPT July, 809; discussion, 818

Stress analysis: lateral bucking: axially constrained pipelines, (Forum) JPT Nov., 1283

Stresses: Arctic ice floes: mechanical behavior of compaction, JPT Apr., 466

around boreholes: bilinear elastic rock, (Tech. Paper) SPEJ Apr., 145

construction: measuring in offshore pipeline, (Tech. Paper) JPT Mar., 261

Subsurface: safety valves: new completion system for surface-controlled type, (Tech. Paper) JPT Mar., 331

Supply: *See* Reserves

Supply and demand: crude oil: forecast of domestic prices, (Tech. Paper) JPT Feb., 135

Surfactants: in oil recovery by alkaline waterflooding, (Tech. Paper) JPT Dec., 1365

microemulsion flooding: physicochemical aspects, SPEJ Oct., 491

Synthetic fuels: energy contribution, (Tech. Paper) JPT Feb., 139

## T

Tar sands: synthetic fuels contribution, (Tech. Paper) JPT Feb., 139

Taxation: in prudent risk-taking, (Tech. Paper) JPT July, 711

Temperatures: boundary: extended semi-analytic method for increasing and decreasing, SPEJ Apr., 152

coefficient: electrical conductivity; shaly sands, JPT Feb., 213

wellbore and fracture: paraffin precipitation during stimulation, (Tech. Paper) JPT Sept., 997

Ternary diagrams: microemulsion flooding: physicochemical aspects, SPEJ Oct., 491

Tertiary recovery: alkaline waterflooding, (Tech. Paper) JPT Dec., 1365

Brookhaven field, Mississippi: flooding after successful gas injection for secondary recovery, (Tech. Paper) July, 783

COFCAW process: evaluation; Sloss field, Nebraska, JPT June, 676

multipilot evaluation, (Tech. Paper) JPT June, 659

micellar flooding: fluid propagation, interaction, and mobility, SPEJ Dec., 633; discussion, 643

microemulsion flooding: physicochemical aspects, SPEJ Oct., 491

Testing: *See also* Field tests

pressure buildup: determining average reservoir pressure, SPEJ Feb., 55

some characteristics of behavior in bounded multiple-layered reservoirs without crossflow, JPT Oct., 1178

spherical flow regime problems, (Tech. Paper) SPEJ Dec., 545

rock fracture energy: new measurement techniques, (Tech. Paper) SPEJ June, 237

sea-floor scour protection system: semisubmersible drilling rig on Nova Scotian shelf, (Tech. Paper) JPT Apr., 381

short-time transient: analysis of data by type-curve matching, JPT July, 793

test-well shooting: used to distinguish formation damage from limited perforating penetration, (Tech. Paper) JPT Sept., 979

unsteady-state pressure distributions created by well with single infinite-conductivity vertical fracture, SPEJ Aug., 347

well in a constant-pressure square: analysis, (Tech. Paper) SPEJ Apr., 107

well-test analysis: wells producing from two commingled zones of unequal thickness, JPT Sept., 1035

Texas: Arriola field: controlling sand with epoxy-coated, high-solids-content gravel slurry, (Tech. Paper) JPT Nov., 1215

carbon/oxygen log: use and interpretation, (Tech. Paper) JPT Sept., 1044

carbon/oxygen well logging system: evaluation of, (Tech. Paper) JPT Oct., 1103

Conroe field: field test and analytical study of intermittent gas lift, SPEJ Oct., 502

Crossett field: carbon dioxide miscible displacement; use of numerical simulation to design project, (Tech. Paper) JPT Dec., 1327

Curry Unit: successful waterflood; depleted carbonate reservoir with high gas saturation, (Tech. Paper) JPT Dec., 1359

evaluation of preflashes: for sand consolidation plastics, (Tech. Paper) JPT Oct., 1095

Grayburg dolomite reservoir: alkaline waterflooding for wettability alteration, (Tech. Paper) JPT Dec., 1335

Gulf Coast: multipilot evaluation of COFCAW process, (Tech. Paper) JPT June, 659

probabilistic models for hurricane occurrences, (Tech. Paper) JPT Mar., 279

using CNL-FDC logging to distinguish oil, water and gas zones, (Tech. Paper) JPT Sept., 990

High Island area: platform riser repair and protection, (Forum) JPT Apr., 448

hydrothermal setting cement: for cementing ultradeep, hot wells, (Tech. Paper) JPT Oct., 1087

matrix acidizing: optimizing the profitability of treatments, (Tech. Paper) JPT Sept., 1055

oil recovery by alkaline waterflooding, (Tech. Paper) JPT Dec., 1365

South and West Texas fields: effectiveness of well casing cathodic protection, (Tech. Paper) JPT July, 724

Wasson field: injection profile corrections; review of work-over techniques, Willard Unit, (Tech. Paper) JPT May, 557

Wasson San Andres field: Denver Unit project; changing concepts in carbonate waterflooding, (Tech. Paper) JPT June, 595

Yates/Queen reservoir: alkaline waterflooding for wettability alteration, (Tech. Paper) JPT Dec., 1335

Thermal properties: unconsolidated oil sands, (Tech. Paper) SPEJ Oct., 513

Thermal recovery of oil: boundary temperatures: extended semi-analytic method for increasing and decreasing, SPEJ Apr., 152

COFCAW process: evaluation as tertiary recovery method; Sloss field, Nebraska, JPT June, 676

multipilot evaluation, (Tech. Paper) JPT June, 659

tertiary pilot test; Sloss field, Nebraska, JPT June, 667

fire-water flooding: laboratory investigation, (Tech. Paper) SPEJ Dec., 537

in-situ combustion: effects of low-temperature-oxidation reaction kinetics, (Tech. Paper) SPEJ June, 253

pressure falloff analysis: reservoirs with fluid banks, JPT July, 809; discussion, 818

Sloss COFCAW project: evaluation of performance during and after air injection, JPT Dec., 1439

steam injection: conversion to waterflood; East Coalinga field, California, (Tech. Paper) JPT Nov., 1227

steamflooding: three-dimensional simulation, SPEJ Dec., 573

thermal behavior: unconsolidated oil sands, (Tech. Paper) SPEJ Oct., 513

wellbore insulation: silicate foam, (Tech. Paper) JPT June, 583

wet-combustion drive: factorial design analysis, (Tech. Paper) SPEJ Feb., 25

Transient flow: modeling: gas pipeline systems; fast, highly accurate means by variational methods, SPEJ Apr., 165; discussion, 175

some applications to promote understanding of performance, SPEJ Apr., 179; discussion, 185

natural-gas pipelines: unsteady-state calculations, (Tech. Paper) SPEJ Feb., 35

short-time test data: analysis by type-curve matching, JPT July, 793

Transients: *See also* Pressure transients

pressure: in-situ estimation of vertical permeability, SPEJ Feb., 75

some characteristics in bounded multiple-layered reservoirs without crossflow, JPT Oct., 1178

testing: delineation of fluid banks, JPT July, 809; discussion, 818

Transmissibility: interblock: determining in reservoir simulators, (Forum) JPT Jan., 77

semi-implicit simulator: some practical considerations in construction, (Tech. Paper) SPEJ June, 216

Transport: sand particle: perforated casing, (Tech. Paper) JPT Jan., 80

Tubing: oilwell: multiphase vertical flow; statistical evaluation of methods used to predict pressure losses, JPT Aug., 903; discussion, 913

vertical: evaluation of three new methods for predicting, (Tech. Paper) JPT Aug., 829

## U

United States: reserves: oil and gas, (Tech. Paper) JPT Feb., 150

Utah: drilling wells: improved method for calculating swab and surge pressures and circulating pressures, (Tech. Paper) SPEJ Oct., 451

## V

Valuations: *See* Evaluations

Valves: safety: new completion system for surface-controlled subsurface type, (Tech. Paper) JPT Mar., 331

Velocity: annular: importance in drilling-cutting transport, (Tech. Paper) JPT Nov., 1295; discussion, 1302

five-spot developed well patterns, (Forum) JPT May, 550

Velocity logging: *See* Acoustic velocity logging

Vessel: semisubmersible: improved for North Sea operations, (Forum) JPT Mar., 326

Viscosity: annular: drilling fluids; field method of evaluating performance, (Tech. Paper) JPT Feb., 167

high: crude squeeze; effective gas shutoff technique, (Tech. Paper) JPT May, 551

polymer emulsion: as fracturing fluid, (Tech. Paper) JPT July, 731

Volumetric behavior: velocities: developed five-spot well patterns, (Forum) JPT May, 550

Vycor: microporous: spontaneous imbibition of fluids, (Tech. Paper) SPEJ Apr., 139

## W

Wasson field: *See* Texas

Wasson San Andres field: *See* Texas

Water: injection: through relief wells to control gas blow-out; theoretical analysis, (Tech. Paper) SPEJ Aug., 321

jet impingement: mechanics of initiating rock failure, (Tech. Paper) SPEJ Feb., 10

permeability of coal to, SPEJ Dec., 563

shallow: effect of waves on stability and bearing capacity of sea beds, (Tech. Paper) SPEJ Aug., 330

Water drive: displacement stability: water-wet connate-water-bearing reservoir, SPEJ Feb., 63

Water influx: well drainage boundary: constant-pressure square; well-test analysis, (Tech. Paper) SPEJ Apr., 107

Water injection: *See* Waterflooding

Water wells injection profile corrections: review of work-over techniques, Willard Unit, (Tech. Paper) JPT May, 557

Waterflooding: alkaline: for wettability alteration; evaluating a potential field application, (Tech. Paper) JPT Dec., 1335

oil recovery by, (Tech. Paper) JPT Dec., 1365

blocking agent: pilot application in Weyburn Unit, Saskatchewan, Canada, (Tech. Paper) JPT Sept., 973

carbonate reservoirs: changing concepts; West Texas Denver Unit project, (Tech. Paper) JPT June, 595

caustic: field trial of process, (Tech. Paper) JPT Dec., 1353

process for heavy oils, (Tech. Paper) JPT Dec., 1344

COFCAW process: evaluation as tertiary recovery method; Sloss field, Nebraska, JPT June, 676

multipilot evaluation, (Tech. Paper) JPT June, 659

tertiary pilot test; Sloss field, Nebraska, JPT June, 667

depleted carbonate reservoir with high gas saturation, (Tech. Paper) JPT Dec., 1359

East Coalinga field: conversion from steam injection, (Tech. Paper) JPT Nov., 1227

fire: laboratory investigation, (Tech. Paper) SPEJ Dec., 537

forward combustion combination: Sloss project; evaluation of performance during and after air injection, JPT Dec., 1439

gravity segregation: two-phase displacement processes, SPEJ Dec., 619

injection profile corrections: review of workover techniques, Willard Unit, (Tech. Paper) JPT May, 557

performance: matching calculated with actual by estimating some reservoir properties, (Tech. Paper) JPT May, 501

pilot: tertiary recovery after successful gas injection for secondary recovery; Brookhaven field, Mississippi, (Tech. Paper) JPT July, 783

pressure falloff analysis: two- and three-zone flood, JPT July, 809; discussion, 818

shaly sand reservoir: performance of Smiley-Dewar field, Saskatchewan, (Tech. Paper) JPT Dec., 1375

Wave action: shallow-water waves: effect on stability and bearing capacity of sea beds, (Tech. Paper) SPEJ Aug., 330

Well completion: *See also* specific types

cement spacer fluid, (Forum) JPT Aug., 856

cementing: hydrothermal setting cement for ultradeep, hot wells, (Tech. Paper) JPT Oct., 1087

fluids: new nondamaging and acid-degradable, (Tech. Paper) JPT Nov., 1221

geometries: estimating maximum sand-free production rates from friable sands, JPT Oct., 1156

gravel pack: design considerations, JPT Feb., 205

new tool improves pack placement, (Tech. Paper) JPT Jan., 19

new system for surface-controlled subsurface safety valves, (Tech. Paper) JPT Mar., 331

offshore platforms: new drilling concept effects reduced costs, (Tech. Paper) JPT Apr., 395

- West Texas Denver Unit project: changing concepts in carbonate waterflooding, (Tech. Paper) JPT June, 595
- workover planning: wells with fault-damaged casing, South Pass Block 27 field, (Tech. Paper) JPT July, 739
- Well location: optimum: determining in a reservoir using mixed-integer programming, SPEJ Feb., 44
- Well logging: carbon/oxygen: instrumentation, (Tech. Paper) SPEJ Oct., 463
- carbon/oxygen: use and interpretation, (Tech. Paper) JPT Sept., 1044
- carbon/oxygen system: laboratory and field evaluation, (Tech. Paper) JPT Oct., 1103
- cement bond logs, (Tech. Paper) JPT June, 607
- CNL-FDC logs: using to distinguish oil, water, and gas zones; Texas Gulf Coast, (Tech. Paper) JPT Sept., 990
- microporosity detection: to improve formation evaluation, (Tech. Paper) JPT Oct., 1080
- nuclear magnetism log: determining residual oil, JPT Feb., 226
- shaly sands: relation between hydrocarbon saturation and resistivity index; temperature coefficient of electrical conductivity, JPT Feb., 213
- Well logs: interpretation: estimating maximum sand-free production rates from friable sands for different well completion geometrics, JPT Oct., 1156
- sonic and resistivity: analysis of naturally fractured reservoirs, (Tech. Paper) JPT Nov., 1233
- Well pattern: five-spot: developed; velocities in, (Forum) JPT May, 550
- Well performance: *See also* Wellbore mechanics
- blocking agent: pilot application in Weyburn Unit, Saskatchewan, Canada, (Tech. Paper) JPT Sept., 973
- numerical simulation of individual wells: field simulation model, (Tech. Paper) SPEJ Aug., 315
- two-dimensional radial treatment: within a three-dimensional reservoir model, (Tech. Paper) SPEJ Apr., 127
- unsteady-state pressure distributions: well with a single infinite-conductivity vertical fracture, SPEJ Aug., 347
- Well productivity: perforation damage effects, JPT Nov., 1303
- Well stimulation: *See also* Acidizing, Formation fracturing, and Perforating
- fracturing: paraffin precipitation during stimulation, (Tech. Paper) JPT Sept., 997
- polymer emulsion, (Tech. Paper) JPT July, 731
- injection profile corrections: review of workover techniques, Willard Unit, (Tech. Paper) JPT May, 557
- perforating: distinguishing limited penetration from formation damage by test-well shooting, (Tech. Paper) JPT Sept., 979
- Well workovers: *See* Workovers
- Wellbore mechanics: estimating flow efficiency: from after flow-distorted pressure buildup data, (Forum) JPT June, 696
- insulation: silicate foam, (Tech. Paper) JPT June, 583
- Wettability: alteration: alkaline waterflooding used; evaluating a potential field application, (Tech. Paper) JPT Dec., 1335
- Weyburn Unit: *See* Canada
- Whittier field: *See* California
- Workovers: techniques: injection profile correction; review of Willard Unit methods, (Tech. Paper) JPT May, 557
- used through fault-damaged casing; South Pass Block 27 field, (Tech. Paper) JPT July, 738
- Wyoming: Elk Basin field: high-viscosity crude squeeze is effective gas shutoff technique, (Tech. Paper) JPT May, 551
- Salt Creek field: micellar flooding; fluid propagation, interaction, and mobility, SPEJ Dec., 633; discussion, 643

## Y

Yates/Queen reservoir: *See* Texas



